Amended Master Excavation, Disposal, and Restoration Design Plan

Offsite Properties within the Exide Preliminary Investigation Area

Prepared by
The Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

December 10, 2018
CERTIFICATION

FINAL
AMENDED MASTER EXCAVATION, DISPOSAL, AND RESTORATION DESIGN PLAN
Offsite Properties within the Exide Preliminary Investigation Area

This Work Plan was prepared by the California Environmental Protection Agency - Department of Toxic Substances Control (DTSC). This document and interpretations or conclusions presented herein are based upon data collected during site visits, field sampling and monitoring, and information from published documents that are cited and listed in the references section.

This Work Plan was prepared in a manner consistent with the level of care and skill exercised by professional engineers, geologists, and environmental scientists.

Prepared By: Hortensia Muniz, P.E.
Date: 12/10/2018

Reviewed By: Peter Ruttan, P.G.
Date: 12/10/2018

Reviewed By: Alfredo Zanoria, P.G., C.E.G., C.H.G.
Date: 12/10/2018
<table>
<thead>
<tr>
<th>TABLE OF CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF ACRONYMS</td>
</tr>
<tr>
<td>EXECUTIVE SUMMARY</td>
</tr>
<tr>
<td>1.0 INTRODUCTION</td>
</tr>
<tr>
<td>1.1 SITE LOCATION AND BACKGROUND</td>
</tr>
<tr>
<td>1.1.1 Climatology</td>
</tr>
<tr>
<td>1.1.2 Geology and Hydrogeology</td>
</tr>
<tr>
<td>2.0 SCOPE AND OBJECTIVES</td>
</tr>
<tr>
<td>3.0 PROJECT ORGANIZATION AND SCHEDULE</td>
</tr>
<tr>
<td>3.1 PROJECT COMMUNICATION</td>
</tr>
<tr>
<td>3.2 WEEKLY CHECK-INS AND EMAIL REPORT</td>
</tr>
<tr>
<td>4.0 BASIS FOR TECHNICAL APPROACH</td>
</tr>
<tr>
<td>5.0 PRE-EXCAVATION ACTIVITIES</td>
</tr>
<tr>
<td>5.1 PERMITS, DOCUMENTATION, TRAINING, AND NOTIFICATIONS</td>
</tr>
<tr>
<td>5.2 UTILITIES</td>
</tr>
<tr>
<td>5.3 PROPERTY PHOTO DOCUMENTATION</td>
</tr>
<tr>
<td>5.4 SITE PREPARATION AND CONTROL MEASURES</td>
</tr>
<tr>
<td>5.5 PRE-EXCAVATION CONFIRMATION SAMPLING</td>
</tr>
<tr>
<td>5.6 WASTE PROFILE SAMPLING</td>
</tr>
<tr>
<td>5.7 EXCAVATION AREA, SAFETY, AND SECURITY</td>
</tr>
<tr>
<td>5.8 RELOCATION AND COMPENSATION</td>
</tr>
<tr>
<td>5.9 PUBLIC PARTICIPATION</td>
</tr>
<tr>
<td>6.0 EXCAVATION ACTIVITIES</td>
</tr>
<tr>
<td>6.1 EXCAVATION LIMITS</td>
</tr>
<tr>
<td>6.1.1 Site Clearing and Debris Removal</td>
</tr>
<tr>
<td>6.1.2 Equipment</td>
</tr>
<tr>
<td>6.1.3 Shoring And Setbacks</td>
</tr>
<tr>
<td>6.1.4 Excavation Procedures and Progression</td>
</tr>
<tr>
<td>6.1.5 Supplemental Environmental Controls</td>
</tr>
<tr>
<td>6.1.6 Surveying Activities</td>
</tr>
<tr>
<td>6.2 DUST CONTROL</td>
</tr>
</tbody>
</table>
6.2.1 Dust Suppression Techniques ................................................................. 6-5
6.2.2 SCAQMD Rule 403 .............................................................................. 6-7
6.2.3 SCAQMD Rule 1466 ........................................................................... 6-7

6.3 AIR MONITORING ....................................................................................... 6-8
6.3.1 Real-Time Particulate Monitors ............................................................ 6-8
6.3.2 Personnel and Perimeter Air Monitoring ........................................... 6-9
6.3.3 Ambient air quality monitoring ......................................................... 6-9
6.3.4 California Air Resources Board On-Road and Off-Road Vehicle Rules ...... 6-9

6.4 NOISE AND VIBRATION CONTROL ............................................................... 6-10

6.5 EROSION AND RUNOFF CONTROL .............................................................. 6-10
6.5.1 Erosion Control .................................................................................. 6-11
6.5.2 Wastewater management ................................................................. 6-11

6.6 DECONTAMINATION PROCEDURES ........................................................... 6-12

6.7 POST-EXCAVATION CONFIRMATION SAMPLING .................................... 6-12

6.8 FIELD OVERSIGHT AND REPORTING ...................................................... 6-13
6.9 FIELD DOCUMENTATION ......................................................................... 6-13

7.0 WASTE MANAGEMENT ................................................................................. 7-1
7.1 SOIL MANAGEMENT, STORING, AND PROFILING ..................................... 7-1
7.2 LOAD CHECKING ..................................................................................... 7-2

8.0 TRANSPORTATION AND TRAFFIC MANAGEMENT ..................................... 8-1
8.1 PDF TRANS-1 – DEVELOP TRAFFIC MANAGEMENT PLAN ....................... 8-1
8.2 PDF TRANS-2 – COORDINATE ROUTES WITH LOCAL JURISDICTIONS ....... 8-1
8.3 PDF TRANS-3 – COORDINATE WITH LOCAL AUTHORITIES ................... 8-1
8.4 TRAFFIC CONTROL PLAN DRAWINGS .................................................... 8-1
8.5 PERMITTING .......................................................................................... 8-2

9.0 BACKFILL AND RESTORATION ................................................................. 9-1
9.1 BACKFILL SOURCE EVALUATION ............................................................. 9-1
9.1.1 Topsoil ............................................................................................... 9-2
9.2 SITE RESTORATION ACTIVITIES ............................................................. 9-2
9.2.1 Backfilling and Grading ..................................................................... 9-3
9.3 RESTORATION OPTIONS .......................................................................... 9-3
9.3.1 Drought Tolerant & Low Maintenance Option .................................. 9-4
9.3.2 Sustainable Landscaping Options 9-5

9.4 RESTORATION MATERIALS 9-17
9.4.1 Mulch, lava rock, or decomposed granite 9-17
9.4.2 Sod 9-17

9.5 PLANT REIMBURSEMENT 9-17

9.6 POST-CLEANUP INTERIOR CLEANING 9-17

10.0 HEALTH AND SAFETY MONITORING 10-1

11.0 LETTER OF COMPLETION 11-1
11.1 POST-CLEANUP EVALUATION 11-1

12.0 REFERENCES 12-1
Appendix A – Mitigation Monitoring and Reporting Program 12-5
Appendix B – Health and Safety Plan 12-25
Appendix C - Transportation Plan 12-26
Appendix D – Green House Gas Emissions Reduction Plan 12-27
Appendix E – Property Specific Excavation, Disposal, and Restoration Plan (template) 12-28
Appendix F – Property Specific Letter of Completion (template) 12-29
Appendix G – California Native Plants 12-30
Appendix H – Traffic Management Plan 12-33
Appendix I – Quality Assurance Project Plan (QAPP) 12-34
Appendix J – Noise Mitigation Plan 12-35
LIST OF FIGURES

Figure 1 – The Preliminary Investigation Area (PIA) ................................................................. 1-4
Figure 2 – Typical Residential Excavation Plan ..................................................................... 4-2
Figure 3 – Typical School Excavation Plan ............................................................................. 4-4
Figure 4 – Typical Park Excavation Plan .................................................................................. 4-6
Figure 5 – Typical Property Specific Landscaping Options ......................................................... 9-9
Figure 6 – Sustainable Landscaping Design Template: Front Yard Sun/No Trees ....................... 9-13
Figure 7 – Sustainable Landscaping Design Template: Front Yard Shade/Trees ....................... 9-14
Figure 8 – Sustainable Landscaping Design Template: Backyard Sunny ................................... 9-15
Figure 9 – Sustainable Landscaping Design Template: Backyard Shade/Trees ......................... 9-16

LIST OF TABLES

TABLE 1 - SAMPLE PROPOSED SCHEDULE FOR CLEANUP ACTION ..................................... 3-2
TABLE 2 - POTENTIAL CONTAMINANTS FOR FILL SOURCE AREA .......................................... 9-2
TABLE 3 - RECOMMENDED FILL MATERIAL SAMPLING FREQUENCY .................................. 9-2
TABLE 4 – RESTORATION OPTIONS AND MATERIALS ............................................................. 9-7
TABLE 5 - DROUGHT TOLERANT LANDSCAPING ..................................................................... 9-10
TABLE 6 - CALIFORNIA FRIENDLY SUSTAINABLE® LANDSCAPING ..................................... 9-11
TABLE 7 - DTSC SUSTAINABLE LANDSCAPING OPTIONS AND RESTORATION .................. 9-12
**LIST OF ACRONYMS**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATCM</td>
<td>Airborne Toxic Control Measure</td>
</tr>
<tr>
<td>BACT</td>
<td>Best Available Control Technology</td>
</tr>
<tr>
<td>bgs</td>
<td>Below ground surface</td>
</tr>
<tr>
<td>Cal/OSHA</td>
<td>California Division of Occupational Safety and Health</td>
</tr>
<tr>
<td>CARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>CDPH</td>
<td>California Department of Public Health</td>
</tr>
<tr>
<td>DTSC</td>
<td>Department of Toxic Substances Control</td>
</tr>
<tr>
<td>EDD</td>
<td>Electronic Data Deliverable</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
</tr>
<tr>
<td>ELAP</td>
<td>Environmental Laboratory Accreditation Program</td>
</tr>
<tr>
<td>Exide</td>
<td>Exide Technologies</td>
</tr>
<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>HEPA</td>
<td>high efficiency particulate air</td>
</tr>
<tr>
<td>HERO</td>
<td>Human and Ecological Risk Office</td>
</tr>
<tr>
<td>HHRA</td>
<td>Human Health Risk Assessment</td>
</tr>
<tr>
<td>LAUSD</td>
<td>Los Angeles Unified School District</td>
</tr>
<tr>
<td>LOC</td>
<td>Letter of Completion</td>
</tr>
<tr>
<td>mg/kg</td>
<td>milligrams per kilogram</td>
</tr>
<tr>
<td>MMRP</td>
<td>Mitigation Monitoring and Reporting Program</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>PAM</td>
<td>Personal air monitor</td>
</tr>
<tr>
<td>PDF</td>
<td>Project Design Feature</td>
</tr>
<tr>
<td>PIA</td>
<td>Preliminary Investigation Area</td>
</tr>
<tr>
<td>POC</td>
<td>Point of Contact</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal protective equipment</td>
</tr>
<tr>
<td>ppm</td>
<td>Parts-Per-Million</td>
</tr>
<tr>
<td>Property Plan</td>
<td>Property Specific Excavation, Disposal, and Restoration Design Plan</td>
</tr>
<tr>
<td>PT&amp;R Guidance</td>
<td>Proven Technologies and Remedies Guidance</td>
</tr>
<tr>
<td>QAPP</td>
<td>Quality Assurance Project Plan</td>
</tr>
<tr>
<td>QA/QC</td>
<td>Quality Assurance/Quality Control</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
</tr>
<tr>
<td>Ro</td>
<td>Ramona Loam</td>
</tr>
<tr>
<td>SCAQMD</td>
<td>South Coast Air Quality Management District</td>
</tr>
<tr>
<td>STLCL</td>
<td>Soluble Threshold Limit Concentration</td>
</tr>
<tr>
<td>SWPPP</td>
<td>Storm Water Pollution Prevention Plan</td>
</tr>
<tr>
<td>TACs</td>
<td>Toxic Air Contaminants</td>
</tr>
<tr>
<td>TAT</td>
<td>Turnaround Time</td>
</tr>
<tr>
<td>TBC</td>
<td>To be considered</td>
</tr>
<tr>
<td>TCLP</td>
<td>Toxicity Characteristic Leaching Procedure</td>
</tr>
<tr>
<td>TCRAs</td>
<td>Time Critical Removal Action</td>
</tr>
<tr>
<td>TSDF</td>
<td>Treatment, storage, and disposal facility</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>TSP</td>
<td>total suspended particles</td>
</tr>
<tr>
<td>UCL</td>
<td>Upper confidence limit</td>
</tr>
<tr>
<td>US EPA</td>
<td>United States Environmental Protection Agency</td>
</tr>
<tr>
<td>VDECS</td>
<td>Verified Diesel Emission Control Strategies</td>
</tr>
<tr>
<td>VOCs</td>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>XRF</td>
<td>X-ray fluorescence</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

This Master Excavation, Disposal, and Restoration Design Plan (or Work Plan) has been prepared by the California Department of Toxic Substances Control (DTSC) pursuant to the Removal Action Plan (Cleanup Plan) Offsite Properties within the Exide Preliminary Investigation Area, dated July 17, 2017, including any modifications, amendments or addenda thereto subsequently approved by DTSC (the Cleanup Plan), and DTSC’s Proven Technologies and Remedies Guidance, Remediation of Metals in Soil (PT&R Guidance), dated August 29, 2008. This Work Plan presents the excavation, disposal, and restoration activities required to address the excavation of contaminated soils at sensitive land use properties (e.g., residential properties, schools, parks, day care centers, and child care facilities) subject to cleanup pursuant to the Cleanup Plan. This Work Plan describes the excavation and disposal procedures for soil contaminated with lead at concentrations above DTSC’s residential screening level, and the subsequent restoration of the properties with clean soil and replacement landscaping.

The properties subject to this Work Plan are located within the Preliminary Investigation Area (PIA). The PIA is the area within an approximately 1.7-mile radius of the former Exide Technologies, Inc. (Exide) lead-acid battery recycling facility in Vernon, California (hereafter, “former Exide Facility”). The past operational activities at the former Exide Facility resulted in releases of lead and other substances to the PIA. The PIA includes portions of the County of Los Angeles, and the Cities of Los Angeles, Commerce, Maywood, Bell, and Huntington Park. The PIA encompasses approximately 10,129 sensitive land use properties.

In accordance with DTSC’s July 7, 2017 Final Environmental Impact Report, which analyzed the environmental impacts of the Cleanup Plan activities, all cleanup activities will be conducted in accordance with the Mitigation Monitoring and Reporting Program (MMRP) to minimize the significance of potential environmental effects. The MMRP is provided in Appendix A for reference.

Cleanup activities to be conducted pursuant to this Work Plan, will generally consist of the following steps:

- Personal property will be removed by the resident from areas that will be excavated based on the confirmation sample results and existing property conditions. On a case-by-case basis, DTSC may instruct the Contractor to move personal property in accordance with Section 6.1.1.
- Representative pre-excavation confirmation discrete samples will be collected from locations on each property, predetermined prior to mobilizing for cleanup activities in the field. Sample locations and depths shall be selected based on the results of previous DTSC sampling efforts for each of the properties. In general, the samples will be collected from up to eight (8) sample locations at depths sufficient to determine target excavation depths for each property. The maximum excavation depth at any property shall be 18 inches below ground surface (bgs). In addition, the confirmation sample depths will be sufficient to evaluate each property’s target cleanup goal of 80 ppm in soil above the 18-inch maximum depth.
- The confirmation samples will be sent to a laboratory for analysis of total lead using U.S. EPA Method 6010B with a laboratory turnaround time (TAT) of five (5) business days, 72 hours, 48 hours, or 24 hours. A TAT of less than five (5) business days must be approved by the DTSC Project Manager or designee, in writing, prior to collecting samples.
• Waste profile samples will be collected from 4 locations in intervals of 0 to 6 inches bgs, 6 to 12 inches bgs, and 12 to 18 inches bgs. The soil for each 6-inch interval will be placed in a suitable container and homogenized in the field. Following homogenization, one composite sample, representing soil at the respective depth interval, will be submitted to a laboratory for waste profile analysis. The three total composite samples (one for each depth interval representing 0 to 6 inches, 6 to 12 inches, and 12 to 18 inches) will be held by the laboratory until DTSC or the Contractor instructs the laboratory as to which sample(s) to analyze. Waste profile results will be used to identify an appropriate offsite disposal facility.

• Soil will be excavated to the excavation depths determined through discrete confirmation sample results from the laboratory. If the target excavation depths cannot be achieved due to obstructions such as tree roots or utilities, a post-excavation confirmation sample will be collected at the depth of excavation achieved.

• If possible, excavated soil will be directly loaded into bins or dump trucks. Soil may also be contained in Super Sacks® (or the equivalent) prior to placement in dump trucks for offsite disposal. The soil will then be transported off-site for disposal in accordance with the Transportation Plan (Appendix C), and will follow the applicable jurisdiction-specific Traffic Management Plan (Section 8.0). On properties where direct loading is not possible, an alternative method of transferring the soil into loading bins shall be predetermined in consultation with the DTSC Project Manager or Field Operations Manager, or their official designee(s), prior to mobilizing for cleanup activities in the field.

• A post-excavation cleanup evaluation for lead will be performed in accordance with the PT&R Guidance to evaluate residual levels of lead.

• The excavated area will be backfilled to the pre-existing grades, except as necessary to permit adequate draining before it is restored with landscaping at each property.

• If elected, interior cleaning will be conducted within two (2) days after the property was restored and before the property closeout is conducted, unless special arrangements are made with the Contractor.

• The Contractor will prepare a Letter of Completion (LOC) documenting the work performed and the post-cleanup risk evaluation for the property.
1.0 INTRODUCTION

This Master Excavation, Disposal and Restoration Design Plan (or Work Plan) has been prepared to support a removal action consisting of the excavation of lead-impacted soil and related activities at sensitive land use properties (residential properties, schools, parks, day care centers, and child care facilities) within the PIA pursuant to the Removal Action Plan (Cleanup Plan) Offsite Properties within the Exide Preliminary Investigation Area, including any modifications, amendments or addenda thereto subsequently approved by DTSC. This Work Plan describes the soil excavation, soil management and disposal, and landscape restoration that will be performed at sensitive land use properties in the PIA with a representative soil lead concentration\(^1\) greater than 80 ppm, that is, soil lead concentrations exceeding a 95% upper confidence limit (UCL) of 80 ppm. This Work Plan will serve as a master plan that will be incorporated by reference into the Property-Specific Excavation, Disposal, and Restoration Design Plans (Property Plans) to be prepared for each individual property subject to cleanup pursuant to the Cleanup Plan. The Property Plans will include additional property-specific information, including, but not limited to, the following:

- The soil characterization results;
- The area(s) of excavation;
- The equipment staging area;
- The decontamination area(s);
- The re-landscaping design; and
- Other property-specific requirements necessary to implement the removal action.

1.1 SITE LOCATION AND BACKGROUND

This Work Plan describes the cleanup of sensitive land use properties within the PIA. Sampling work in the PIA by DTSC has identified representative soil lead concentrations that exceed the DTSC residential screening level of 80 ppm and require removal (see Figure 1). Property-specific location and background information for each property subject to cleanup under the Cleanup Plan will be presented in the Property Plans.

1.1.1 CLIMATOLOGY

The PIA is in an arid region of Southern California.

1.1.2 GEOLOGY AND HYDROGEOLOGY

This section provides a brief overview of the regional geology and hydrogeology in the vicinity of the PIA. Given that the properties subject to cleanup action are developed areas, much of the existing surface soil is likely to be fill material from unknown sources.

\(^1\) A representative soil lead concentration is determined by the 95 percent upper confidence limit (UCL) of the mean lead concentration in soil.
1.1.2.1 Geology

The PIA is located within the Coastal Plain of the Los Angeles Basin in the Peninsular Range Geomorphic Province, between the northern Peninsular and Transverse Ranges. The Transverse Ranges trend east-to-west, while the Peninsular Ranges extend southeastward into Baja California, Mexico. These ranges are composed of mildly metamorphosed sedimentary and volcanic rocks of Jurassic age. The Los Angeles Basin is also part of the onshore portion of the California continental borderland, characterized by northwest-trending offshore ridges and basins, formed primarily during early and middle Miocene time. Major northwest trending strike-slip faults, such as the Whittier, Newport–Inglewood, and Palos Verdes faults, dominate the basin (Bilodeau, 2007).

Regional geologic maps identify soils underlying the PIA as composed of Quaternary alluvium, including young-alluvial sand or silt (Jennings, 1969). The Lakewood Formation directly underlies the soils, which in turn is underlain by the San Pedro Formation, followed by the Pico Formation. National Resources Conservation Service soil data for the study area indicate the alluvium that underlies the PIA is the Hanford Fine Sandy Loam unit (Hf; LA County, 2004). Loam soils consist primarily of sand and silt with lesser amounts of clay and humus.

The former Exide Facility is located in the City of Vernon, but portions of the PIA are present in other cities including the northern portion in the City of Los Angeles (Boyle Heights and East Los Angeles neighborhoods), the eastern portion in the cities of Commerce and Bell, and the southern portion in the City of Maywood. Native soils encountered in the City of Vernon area include the following (LA County, 2004):

- **Chino Silt Loam (Cs)** – Dark brownish gray to nearly black, silt loam. Texture and color is variable. Subsoil member consists of brown or grayish-brown strata of silt, clay, and fine sand found below a depth of 12 to 18 inches. Lighter textured parts are brown.
- **Hanford Fine Sandy Loam (Hf)** – Brown to grayish-brown, relatively light-textured, fine sandy loam, open and friable. Subsoil member encountered at a depth of 12 to 15 inches. Texture varies near streams. Subsoil can continue uniform to a depth of 6 feet.
- **Ramona Loam (Ro)** – To a depth of 12 to 24 inches, the soil is brown, grayish-brown, or dark-brown light-textured loam. Subsoil member is reddish-brown, brown, or red, compact clay loam or clay. Semi-cemented in places.
- **Tujunga Fine Sandy Loam (Tf)** – Gray, brownish-gray, or very light grayish-brown fine sandy loam that extends to a depth of 1 to 6 feet. Strips of sand/fine sand/gravelly sand can occur irregularly over the surface.
- **Yolo Loam (Y)** – Brown or grayish-brown with some small to medium gravel and generally uniform to 6 feet in depth. Subsoil member is lighter in color than the surface soil, ranging from light-brown, yellowish brown, or slightly reddish brown.

1.1.2.2 Hydrogeology

Depth to groundwater at the former Exide Facility has been measured at approximately 76 to 87 feet below ground surface (bgs). Groundwater beneath the former Exide Facility is likely perched, as evidenced by deeper groundwater elevations recorded in an offsite monitoring well (MW-17) along the south side of Bandini Boulevard (E2 Environmental, 2015). Overall water levels in monitoring wells set in
the former Exide Facility perched zone have been decreasing, and some wells that previously contained water have gone dry. The persistent drought and paving of previously unpaved areas in the vicinity are likely the significant reasons for the water level decline (AGC, 2015).

Use of groundwater for water supply in the vicinity of the former Exide Facility is currently limited to groundwater extracted from the deeper water bearing zones or regional aquifer (approximately 500 to 1,000 feet bgs). The City of Vernon operates five drinking water supply wells within a 1-mile radius of the former Exide Facility. The closest of those wells is Vernon Production Well #17, situated 0.44 miles west-southwest of the former Exide Facility. Deep-water wells are unlikely to be affected by lead contamination in surface soils because lead is not generally mobile in soils. The drinking water wells in the City of Vernon are tested regularly in accordance with state requirements and do not show elevated lead levels.

Public supply wells in the study area are deep wells, screened beneath 500 feet bgs. The degree of communication or interconnection between the shallow water-bearing or perched zone and the deep-water-bearing or regional aquifer has not been established (AGC, 2004). Nevertheless, based on the nature of lead contamination in soil in general, and soil data collected within the PIA to date, it is unlikely that perched groundwater would be impacted by the lead in surface soils significantly outside of the former Exide Facility boundaries. Thus, this Work Plan will not further address groundwater conditions. Groundwater impacts will be addressed separately under the 2002 Onsite Corrective Measures Study developed for the former Exide Facility.
Figure 1 – The Preliminary Investigation Area (PIA)
2.0 SCOPE AND OBJECTIVES

This Work Plan details the design and implementation of excavation, disposal, and restoration activities described in the Cleanup Plan. The Cleanup Plan requires the excavation and disposal of soil with lead greater than the established cleanup goals until post-removal exposure concentrations for the property are less than a representative soil lead concentration of 80 ppm or a maximum depth of 18 inches bgs is excavated. All cleanup activities must be conducted in accordance with the Mitigation Monitoring and Reporting Program (MMRP) included in the Environmental Impact Report (EIR) (Appendix A).

Excavated soil will be disposed of at an offsite facility (i.e., landfill) authorized to manage lead-impacted soil. Properties will be restored to, or as close to, existing property conditions by replacing the contaminated soil with clean fill material and covered with top soil and a surface landscape material (e.g., lava rock, decomposed granite, mulch/bark, or sod). Soils that are currently covered with hardscape such as concrete, pavement, or other fixed structures are considered to be isolated and do not pose an exposure hazard to human health or the environment and will not be cleaned up.

The objectives of the cleanup action are to:

(1) promptly clean up sensitive land use properties (i.e., residences, schools, parks, day care centers, and child care facilities) in the PIA in a manner that will achieve a cleanup goal for surface soils (0-18 inches bgs) that is protective of public health and the environment;

(2) protect the current and future health of the residential population from exposure to lead in surface soil (0-18 inches bgs) that presents an unacceptable risk to sensitive individuals through ingestion, inhalation, and dermal contact;

(3) restore excavated areas to a condition compatible with the existing surrounding environment and land use that support local ordinances, if any, that employ water-conserving designs2;  

(4) minimize the volume of contaminated soil to be disposed of in a landfill;

(5) minimize, to the extent practicable, the need for institutional and engineering controls; and

(6) minimize short-term adverse impacts to the residential community due to fugitive dust and soil transport.

---

2 The reduction of the use of sod as the Landscaping material will be encouraged by providing the following three restoration options that reduce or eliminate the use of sod. Drought Tolerant and Low Maintenance; Los Angeles Department of Water and Power (LADWP) California Friendly® Landscape Incentive Program; and DTSC’s Sustainable Landscaping Refer to section 9.0 for further details
3.0 PROJECT ORGANIZATION AND SCHEDULE

A qualified and experienced project team will execute the cleanup activities identified in this Work Plan. Compliance with the chain of command and lines of communication is critical for successful implementation of the Work Plan. The following subsections list the key points of contact associated with the project. The cleanup work will be managed by DTSC and the Contractor. A brief description of the responsibilities for each of the key points of contact is presented below.

DTSC Residential Cleanup Project Director

DTSC’s Residential Cleanup Project Director is responsible for overall coordination and organization of the Exide Closure and Exide Residential Cleanup Project. The Residential Cleanup Project Director may delegate authority to the Residential Cleanup Project Manager, the Field Operations Manager, or the Contract Manager for residential cleanup-related decisions.

DTSC Project Manager

DTSC’s Project Manager is responsible for coordination and organization of the Exide Residential Cleanup Project with the Field Operations Manager and Contracts Manager. The Project Manager will ensure compliance with the DTSC-approved Cleanup Plan, the MMRP, and other applicable documents. In addition, the Project Manager will manage the project schedule, develop, and coordinate work orders, coordinate between field staff and Contractors, coordinate and approve property-specific plans and Letters of Completion (LOCs), and review and approve invoices.

DTSC Field Operations Manager

DTSC’s Field Operations Manager will be responsible for coordinating cleanup activities with the Contractor. The Field Operations Manager is the single point of contact for all the field work. All field work schedules, excavation limits and depths, grading permits and plans, field change orders, and other technical issues must be coordinated with the Field Operations Manager. As necessary, the Field Operations Manager may delegate authority to make field decisions to designated Zone Managers.

DTSC Contract Manager

DTSC’s Contract Manager is responsible for managing and coordinating all contract related requirements associated with the cleanup, reviewing, and approving all work orders issued, approving any amendments to the contracts, if appropriate, and reviewing and approving invoice payments.

The names and contact information of the above and other keys points of contact will be provided to the Contractor during the kick-off meeting and will be updated as necessary.

The Contractor will provide overall project management and technical services on the project for the following tasks:

- Confirmation Sampling;
- Excavation and Restoration;
- Transportation and Disposal; and
- Letter of Completion (LOC).
A Property Plan will be prepared by the Contractor using a template provided by DTSC and will provide a schedule of implementation subject to the approval of DTSC.

<table>
<thead>
<tr>
<th>TABLE 1 - SAMPLE PROPOSED SCHEDULE FOR CLEANUP ACTION</th>
<th>PROPERTY IDENTIFICATION NUMBER AND ASSESSOR PARCEL NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITY</td>
<td>DATE</td>
</tr>
<tr>
<td>Confirmation Sampling and Waste Profiling</td>
<td>[Scheduled Date]</td>
</tr>
<tr>
<td>Excavation and Disposal</td>
<td>[Scheduled Date]</td>
</tr>
<tr>
<td>Restoration</td>
<td>[Scheduled Date]</td>
</tr>
<tr>
<td>Interior Cleaning&lt;sup&gt;3&lt;/sup&gt;</td>
<td>[Scheduled Date]</td>
</tr>
<tr>
<td>Closeout Date</td>
<td>[Scheduled Date]</td>
</tr>
</tbody>
</table>

In summary, the following tasks must be completed by the Contractor for each property:

- At DTSC’s direction, clear the property by removing personal property, not removed by the resident, from areas that will be excavated<sup>4</sup> in accordance with Section 6.1.1.
- Collect representative pre-excavation confirmation discrete samples from locations on each property, predetermined prior to mobilizing for cleanup activities in the field. Sample locations and depths shall be selected based on the results of previous DTSC sampling efforts for each of the properties. In general, the collected samples will be collected from up to eight (8) sample locations at depths sufficient to determine target excavation depths for each property. The maximum excavation depth at any property shall be 18 inches below ground surface (bgs). In addition, the confirmation sample depths will be sufficient to evaluate each property’s target cleanup goal of 80 ppm in soil above the 18-inch maximum depth.
- The confirmation samples will be sent to a laboratory for analysis of total lead using U.S. EPA Method 6010B with a laboratory turnaround time (TAT) of five (5) business days, 72 hours, 48 hours, or 24 hours. A TAT of less than five (5) business days must be approved by the DTSC Project Manager or designee, in writing, prior to collecting samples.
- Waste profile samples will be collected from 4 locations in intervals of 0 to 6 inches bgs, 6 to 12 inches bgs, and 12 to 18 inches bgs. The soil for each 6-inch interval will be placed in a suitable container, homogenized, and submitted to a laboratory for waste profile analysis. The three composite samples (one for each interval) will be held by the laboratory until DTSC or the

<sup>3</sup> DTSC will discuss the options available to the property owner during the initial meeting. If a property owner selects interior cleaning they must provide access to the residence within two (2) days after Restoration, unless otherwise arranged with Contractor.

<sup>4</sup> Property owners are responsible for removing personal items from areas where excavation will take place. DTSC will document the existing site conditions with photographs during the Initial Meeting. Properties with debris or personal property that will limit the Contractor’s ability to sample and excavate the property will be flagged for further evaluation. The Contractor will provide DTSC an estimate to remove the debris or personal property before any activities take place at the property. If the amount of debris or personal property to be removed exceeds the reimbursement amount of $500, the property owner will be notified. The field activities may be delayed until the debris or personal property is removed. If the Contractor is directed to remove personal items, associated costs will be deducted from the compensation check paid to the property owner(s) for replacement landscaping in order to compensate the Contractor for this work.
Contractor instructs the laboratory on which sample(s) to composite (if needed) and analyzed. Waste profile results will be used to identify an appropriate offsite disposal facility.

- Soil will be excavated to the excavation depth determined through discrete confirmation samples results. If the target excavation depths cannot be achieved due to obstructions such as tree roots or utilities, a post-excavation confirmation sample will be collected at the depth of excavation achieved.
- If possible, excavated soil will be directly loaded into bins or Super Sacks®. The soil will then be transported off-site for disposal in accordance with the Transportation Plan (Appendix C); and will follow the applicable jurisdiction-specific Traffic Management Plan (Section 8.0). On properties where direct loading is not possible, an alternative method of transferring the soil into loading bins shall be predetermined in consultation with the DTSC Project Manager or Field Operations Manager official designee prior to mobilizing for cleanup activities in the field.
- A post-removal cleanup evaluation for lead will be performed in accordance with the PT&R Guidance to evaluate residual levels of lead.
- The excavated area will be backfilled and graded before it is restored with landscaping at each property.
- If elected, interior cleaning will be conducted within two (2) days after the property was restored and before the property closeout is conducted, unless special arrangements are made with the Contractor.
- The Contractor will prepare a LOC documenting the work performed and the post-cleanup risk evaluation for the property.

3.1 PROJECT COMMUNICATION

The Contractor will ensure its teams are simultaneously informed of project decisions. The Contractor and DTSC will meet weekly and on an as-needed basis to address project issues. The Contractor will establish a process to track issues and disseminate the resolution on project-wide decisions to its teams.

3.2 WEEKLY CHECK-INS AND EMAIL REPORT

The Contractor will participate in weekly phone calls with DTSC to go over progress, questions, and share any related work as it is completed. The Contractor will provide DTSC a weekly email sent on an agreed upon date or sooner to communicate the following:

- the project timeline, budget, and milestones;
- the budget expense rate;
- any timeline specifics;
- the status on deliverables approved;
- a “Next Steps” list;
- any jurisdiction specific issues;
- any meeting planned with jurisdictions; and
- a property status list.
4.0 BASIS FOR TECHNICAL APPROACH

The approved Cleanup Plan selected cleanup Alternative 3, which consists of:

- Excavation of soil until post-cleanup exposure concentrations for the property are less than a representative soil lead concentration of 80 ppm or a maximum depth of 18 inches is excavated;
- Waste profiling of soil to be excavated;
- An average excavation area of approximately 1,214 square feet per property, with various excavation depths of 6, 12, and 18 inches bgs, generating an estimated quantity of 23 to 67 cubic yards of soil per property;
- Transportation of soil and offsite disposal; and
- Property restoration with clean fill material, top soil, and surface landscape material cover (e.g., lava rock, decomposed granite, mulch/bark, or sod). Soil currently covered with hardscape such as concrete, pavement, or other fixed structures is considered to be isolated and does not pose an exposure hazard to human health or the environment and will not be excavated.

The laboratory and X-ray fluorescence (XRF) soil data obtained during prior sampling of properties in the PIA\(^5\) will be used to develop a Property Plan. The Property Plan will include the pre-excavation confirmation sampling approach discussed in Section 5.5. A pre-excavation confirmation sampling plan will be developed for each property. Figures 2, 3, and 4 illustrate typical soil excavation for a residential, school, and park excavation. Data from prior sampling and the pre-excavation confirmation sampling will be used to determine the vertical and lateral excavation limits for that property. The Property Plan will include a restoration plan discussed in Section 9.0. A post-cleanup evaluation will be conducted to determine if the target cleanup goal was achieved (a representative soil lead concentration of 80 ppm). The pre-excavation confirmation sampling event will be used to collect representative samples for waste profiling of soil to be excavated, as well as any additional sampling data that may be needed, in accordance with Section 7.0. The transportation of soil to disposal facilities will be carried out in accordance with the Transportation Plan (Appendix C) and applicable jurisdiction-specific Traffic Management Plans (Section 8.0).

Property restoration will be carried out in accordance with Section 9.0.

\(^5\) This sampling was performed in accordance with DTSC’s Final Workplan, Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, California) last revised on November 1, 2016
NOTES:
1. EXCAVATE TO DEPTH OF 3 INCHES WITHIN 6 INCHES OF STRUCTURES, CREATING BENCH SHOWN ABOVE. THEN EXCAVATED TO ASSIGNED DEPTH AT EITHER 1H:1V SLOPE OR BENCHING THAT ACHIEVES A MAXIMUM 1H:1V SLOPE.
2. MAXIMUM DEPTH OF EXCAVATION IS 18 INCHES.
3. STRUCTURES ARE BUILDINGS, DRIVEWAYS, SIDEWALKS, PATIOS AND FENCES.
4. EXCAVATE TO A MAXIMUM OF 6 INCH DEPTH UNDER DRIP ZONE OF TREES (BIOLOGICAL ROOT ZONE).

**Typical Residential Excavation**

**NOT TO SCALE**

Figure 2 – Typical Residential Excavation Plan
NOTES:
1. EXCAVATE TO DEPTH OF 3 INCHES WITHIN 6 INCHES OF STRUCTURES. CREATING BENCH SHOWN ABOVE, THEN EXCAVATED TO ASSIGNED DEPTH AT EITHER 1H:1V SLOPE OR BENCHING THAT ACHIEVES A MAXIMUM 1H:1V SLOPE.
2. MAXIMUM DEPTH OF EXCAVATION IS 18 INCHES.
3. STRUCTURES ARE BUILDINGS, DRIVEWAYS, SIDEWALKS, PATIOS AND FENCES.
4. EXCAVATE TO A MAXIMUM OF 6 INCH DEPTH UNDER DRIPLINE ZONE OF TREES (BIOLOGICAL ROOT ZONE).

Figure 3 – Typical School Excavation Plan
NOTES:
1. EXCAVATE TO DEPTH OF 3 INCHES WITHIN 6 INCHES OF STRUCTURES, CREATING BENCH SHOWN ABOVE, THEN EXCAVATED TO ASSIGNED DEPTH AT EITHER 1H:1V SLOPE OR BENCHING THAT ACHIEVES A MAXIMUM 1H:1V SLOPE.
2. MAXIMUM DEPTH OF EXCAVATION IS 18 INCHES.
3. STRUCTURES ARE BUILDINGS, DRIVEWAYS, SIDEWALKS, PATIOS AND FENCES.
4. EXCAVATE TO A MAXIMUM OF 6 INCH DEPTH UNDER DRIp ZONE OF TREES (BIOLOGICAL ROOT ZONE).

**Typical Park Excavation**

**NOT TO SCALE**

**Figure 4 – Typical Park Excavation Plan**
5.0 PRE-EXCAVATION ACTIVITIES

Prior to the start of removal activities on a property, representatives from DTSC and the Contractor will hold a pre-construction meeting with each property owner and resident, as appropriate, to describe the planned activities to be performed on the property. Topics to be discussed will include the following:

- Protection of property and yard fixtures;
- Determination of who the occupants are;
- Restoration of excavated areas with landscape materials compatible with the existing landscape; and
- Relocation, interior cleanup, and landscape compensation needs. In addition, potential lost wages for business related uses of the property, if any, will be determined during this meeting.

Factsheets and guidance materials detailing the work being conducted will be provided to the owner and residents, as will 24-hour toll free, bilingual, contact numbers for any questions or concerns that may arise while work is being planned, performed, and completed on the property.

5.1 PERMITS, DOCUMENTATION, TRAINING, AND NOTIFICATIONS

All cleanup activities will be conducted in accordance with applicable local, state, and federal regulations. The following activities are necessary as part of the implementation of this Work Plan:

- Complete Cultural Sensitivity Training;
- Complete Cultural Resources Sensitivity Training;
- Conduct initial and pre-construction meetings;
- Obtain an access agreement from the property owner (may be obtained during the initial meeting);
- Identification and documentation of the presence or absence of air ducts (may be obtained during initial or preconstruction meeting);
- Contact Underground Service Alert (or similar) for utility identification and clearance;
- Draft, review, approve, and implement the Property Plan;
- If required, prepare a grading plan (prepared by Contractor, approved by DTSC) for permitting purposes;
- If required, apply for, and obtain grading permit, as appropriate, from various jurisdictions;
- Obtain encroachment permits and other permits for excavation, shoring, and grading, as necessary;
- Submit estimated schedule of cleanup to DTSC for review and approval;
- Prepare and file the most recent versions of California Department of Public Health (CDPH) Abatement of Lead Hazards Evaluation Notification Form 8551 and Lead Hazard Evaluation Report 8552;
- Implement Greenhouse Gas Emissions Reduction Plan;
- Implement Noise Mitigation Plan;
- Implement Transportation Plan;
- Implement Traffic Management Plans; and
- If excavation volumes exceed 50 cubic yards, implement South Coast Air Quality Management District (SCAQMD) Rule 1466 requirements as follows (see Section 6.2.1 below for details):
o Notify SCAQMD a minimum of 72 hours, but no more than 30 days prior to starting
grading on each parcel.
o Implement full Rule 1466 compliance when clustering adjacent properties and projected
soil removal of more than 500 cubic yards.

5.2 UTILITIES

Underground Service Alert (or similar) will be contacted no less than 72 hours prior to any excavation or
sampling activities to mark and verify the locations of public and private utilities that could be affected
by the work. The Contractor is solely responsible for field verification of utilities within the property
lines. Areas within approximately six (6) inches of underground utilities will not be disturbed to prevent
damage to the appurtenances.

If any electrical pole is encountered on a property, the Contractor will include it on the draft and final
evacuation plan, note any characteristics, and whether a conduit is observed to run down the pole into
the ground. If a conduit is noted going into the ground, the Contractor will check the marking during the
service call by Dig Alert. If there is no marking, the utility company will be asked to return. Excavations
near electrical poles will be benched and will not exceed 12 inches in depth for a radius of 2 feet from
the edge of the power pole. The Contractor will ensure that excavation is conducted in accordance with
the Property Plan (no deeper than 12 inches within 2 feet of the pole).

The Contractor is solely responsible for potholing, protecting utilities, and protecting existing hardscape
and other existing fixed structures. It is the sole responsibility of the Contractor to repair damaged
utilities and fixed structures damaged by the Contractor, and it is imperative that the utilities damaged
by the Contractor are repaired immediately. The Contractor can find utility contact information on the
Dig Alert website. If an active utility is damaged, the following will occur:

• Upon damaging a utility line, the Contractor must notify DTSC’s Project Manager and the
property owner immediately;
• The Contractor must document in the property daily report the location of the damaged utility,
measurements to fixed structures and the repair schedule to be submitted to DTSC Project
Manager; and
• After the repair is completed, the Contractor will notify DTSC’s Project Manager of completion
of repairs and that the property owner is satisfied with the work.

If the Contractor causes any damage to public or private utilities or hardscape such as concrete,
pavement, or other structures, the damage will be addressed by the Contractor at no expense to the
property owner or DTSC.

5.3 PROPERTY PHOTO DOCUMENTATION

The conditions at the property will be documented with photographs prior to beginning cleanup
activities and after restoration has been completed. Photographs will be taken with a digital camera and
will be correlated to a map that displays the position and direction from which each photograph was
taken. The Contractor may additionally video log the property conditions.
Pre-cleanup photographs will document the existing condition of the property, including the condition of the proposed work area and adjacent structures. To avoid disputes over property damage, photos will be taken of concrete driveways, decorative tile, and any other appropriate areas. Existing damage should be noted and documented. In addition, the exterior window and door sills, and accessible trim will be checked for dust accumulation and conditions will be documented with photograph(s) prior to beginning excavation activities.

Photographs taken after restoration is completed will document the same areas photographed prior to cleanup activities, and any other areas deemed appropriate.

Generally, property owners or residents are responsible for removing personal items from areas where excavation will take place. These areas were, or will be, identified during the characterization sampling and confirmation sample events. In cases where the property owner requests that the Contractor remove personal items, the items will be documented with photographs.

5.4 SITE PREPARATION AND CONTROL MEASURES

Prior to the start of excavation activities on a property, DTSC and Contractor representatives will hold and document the initial meeting and pre-construction meeting with the property owner and, if appropriate, the residents to describe the planned activities to be performed on the property. Topics to be discussed will include:

- Protection of property and yard fixtures;
- Determination of who the occupants are;
- Excavation areas that were identified during the sampling events;
- Restoration of excavated areas with landscape materials compatible with the existing landscape; and
- Resident Relocation, interior cleaning of the residence, and landscape compensation needs. In addition, potential lost wages for business related uses of the property, if any, will be determined during this meeting.

During cleanup activities, a sign will be placed at the front of the property that will display appropriate contact information and a toll-free hotline for additional information. From 8:00 a.m. to 5:00 p.m., the hotline will be answered by a bilingual representative who will collect caller information and forward the inquiry to the appropriate DTSC representative. During non-business hours, calls to the hotline will be directed to voicemail, which is checked daily during normal business hours. In the event of an emergency, including an unauthorized release of a hazardous material or hazardous waste that poses a threat to human health or the environment, property owners and residents, the hotline staff, or the Contractor will dial 9-1-1.

Any spill or unauthorized release of a hazardous material or hazardous waste that pose a threat to human health or the environment must be reported by the Contractor in accordance with the Spill Response and Contingency Plan included in the approved Transportation Plan, Attachment A. The Los Angeles County Fire Department for all spills outside of the City of Los Angeles will be contacted. For spills in the City of Los Angeles the Los Angeles Fire Department will be contacted. All personnel
handling the release will have the appropriate OSHA Hazardous Waste Training and medical clearance outline in the Contractor’s Health and Safety Plan.

The Contractor will identify and clearly delineate the work zones, including Exclusion, Decontamination, and Support Zones. The Exclusion Zone will include all areas of excavation, the impacted soil staging area, and the truck loading area. The Decontamination Zone will be located immediately adjacent to the Exclusion Zone and will be used to decontaminate personnel, equipment, and vehicles as they exit the Exclusion Zone. The Support Zone will be located within the designated work area, but it will be outside the Exclusion and Decontamination Zones. The Support Zone will be used to temporarily store equipment, vehicles, and clean soil, as well as accommodate project personnel.

Personnel exiting the Exclusion Zone will decontaminate at the personnel decontamination stations established adjacent to the Exclusion Zone. Personnel will follow the decontamination procedures described in the Contractor’s approved Health and Safety Plan (Appendix B). Used personal protective equipment (PPE) will be discarded and placed in containers for disposal.

Soils will be managed for dust control as necessary based on air monitoring measurements and physical conditions. If wetting is insufficient for dust control, soil must be covered.

The Contractor will also use a hand-held Global Positioning System (GPS) device to document work locations to the most accurate distance.

5.5 PRE-EXCAVATION CONFIRMATION SAMPLING

An initial phase of sampling in the PIA was conducted to identify properties that require cleanup. This initial phase of sampling, also referred to as property characterization sampling, included the use of XRF instruments and lab samples to correlate the XRF data collected. Further sampling, referred to here as confirmation sampling, is needed to determine the excavation areas and to confirm that cleanup objectives are met. Confirmation samples and waste soil profile samples will be collected during the sampling event conducted prior to or during the pre-construction meeting. This sampling is referred to as pre-extraction confirmation sampling. In rare instances, a second event, referred to as post-extraction confirmation sampling, may be scheduled and must be coordinated and approved by DTSC’s Contract Manager, Project Manager, and Field Operations Manager.

The Contractor will ensure the sampling protocol and procedures are consistent with the approach described in the Cleanup Plan to process and obtain sample analytical results such that ProUCL can be used to estimate 95% UCL for each property. However, to the extent that the Cleanup Plan requires screening of any sample using XRF, the requirement is replaced with a requirement that soil samples be collected and submitted to an offsite laboratory for analysis instead.

Sample collection and Quality Assurance/Quality Control (QA/QC) procedures will be in accordance with the Quality Assurance Project Plan (QAPP) (Appendix I).

Prior to conducting a pre-construction meeting, a draft Property Plan will be prepared by DTSC or its Contractor. The draft Property Plan will contain a draft excavation plan which will establish anticipated excavation areas, based on property characterization sampling results, and will be field verified by the
Contractor and DTSC staff at the property. In addition, the Contractor will determine if property specific permits will be needed.

Laboratory sampling results from pre-excavation confirmation samples and prioritization samples will be used to confirm and establish the boundaries of the excavation before the excavation activities begin.

The pre-excavation confirmation sample locations will be located within the anticipated excavation areas depicted in the draft excavation plan. Pre-excavation confirmation samples will not be collected from drip zones or areas where the excavation may be obstructed (i.e. under tree canopies). The draft excavation plan will be revised and finalized by the Contractor based on the results of the pre-excavation confirmation sampling and will be submitted to DTSC for approval before beginning excavation activities.

If large areas of the property are obstructed by non-operating vehicles, debris, or other items restricting the ability to collect representative confirmation samples, pre-excavation confirmation samples will not be collected until such materials are removed by the resident or property owner.

Pre-excavation confirmation samples will be collected from up to eight (8) locations, generally from four (4) boreholes in the front yard and four (4) boreholes in the back yard. In rare instances, a departure from collecting samples in eight (8) locations may be necessary. Collecting samples from more than or less than eight (8) locations may be necessary depending on the size of the property. Any departure from the protocol to collect samples from eight (8) locations must be coordinated with and approved by DTSC Project Manager beforehand, and must be in accordance with the QAPP. Discrete soil samples will be typically collected at two depths at each location: 12-15 inches bgs and 18-21 inches bgs. On a case-by-case basis, when obstructions such as overgrown trees or utilities may prevent excavation to depths greater than 6 inches, shallower discrete samples may be collected at 6-9 inches below ground surface. If shallower samples are needed, the Contractor will coordinate with, and get approval from the DTSC Project Manager on the total number and location of samples.

To ensure a sufficient quantity of sample material is available for evidence preservation, a minimum of eight (8) ounces of soil must be collected from each confirmation sample location.

All soil sampling equipment will be decontaminated before each sample is collected. Prior to sampling, any loose waste or soil will be gently brushed off the surface of the excavation area and care will be taken to collect the sample from an undisturbed area. Dry decontamination may be conducted when appropriate.

All samples will be submitted to an Environmental Laboratory Accreditation Program (ELAP) certified laboratory for analysis under Chain-of-Custody. The Chain-of-Custody will include instructions to the lab to analyze all of the confirmation samples for lead, and other metals if requested by DTSC, using U.S. EPA Method 6010B with a TAT of five (5) business days, 72 hours, 48 hours, or 24 hours, adjusted based on the DTSC Project Manager or designee approved instruction provided by the Contractor. Immediately upon receipt, the Contractor will provide the results to DTSC for review.

DTSC, in coordination with the Contractor, will calculate the representative soil concentration using USEPA-approved Pro UCL for each of the depths (12-15 inches bgs and 18-21 inches bgs). The depth
meeting the representative soil lead concentration of 80 ppm will be used to establish the excavation depth(s). In addition, the maximum observed lead concentration may be used to assess the depth of excavation for a specific decision unit. If, for example, sample(s) exceed the soil screening level within a decision unit, the decision unit would be evaluated to determine if there are geographically collocated areas of elevated lead concentrations that would require cleanup. That is, the representative soil lead concentration or the maximum concentration found within a decision unit at a property will be used to establish the excavation depth. This information will be used to determine which composite samples should be analyzed for waste profiling purposes (see Section 5.6 below).

All confirmation samples will be retained by the Contractor and stored in an appropriate location, unless otherwise instructed by DTSC. Each soil sample will have a unique identification code to indicate where and at what depth a sample was collected. Nomenclature generally consistent with the sample designations previously used during the characterization of the properties will be used for confirmation samples (Appendix C of the Cleanup Plan). The sample naming guidelines are described in the Exide Electronic Data Deliverable (EDD) Specification Manual (DTSC, May 2018).

5.6 WASTE PROFILE SAMPLING

Excavated soil will require sampling for waste characterization and profiling for disposal. Waste soil profile samples will be collected during the sampling event conducted prior to or during the pre-construction meeting. In rare instances, a second event may be scheduled and must be coordinated and approved by the Contract Manager, Project Manager, and Field Operations Manager.

The soil column or soil cuttings generated during the pre-excavation confirmation sampling will be combined into a suitable container, homogenized, and then processed for waste profile analyses at a fixed ELAP-certified laboratory. Sample collection and QA/QC procedures will be in accordance with the QAPP (Appendix I).

To ensure a sufficient quantity of sample material is available for evidence preservation, a minimum of 8 ounces of soil must be collected from each waste profile sample location. All waste profile samples will be retained by the Contractor and stored in an appropriate location, unless otherwise instructed by DTSC. Each soil sample will have a unique identification code to indicate where and at what depth a sample was collected. Nomenclature generally consistent with the sample designations previously used during the characterization of the properties will be used for samples (Appendix C of the Cleanup Plan). The sample naming guidelines are described in the Exide Electronic Data Deliverable (EDD) Specification Manual (DTSC, May 2018).

---

6 If the Contractor is still in possession of confirmation samples at time its contract with DTSC to implement the Cleanup Plan expires or is otherwise terminated, Contractor shall transfer all samples to location specified by DTSC.

7 If the Contractor is still in possession of waste profile samples at time its contract with DTSC to implement the Cleanup Plan expires or is otherwise terminated, Contractor shall transfer all samples to location specified by DTSC.
Soil will be sampled at four (4) locations per property, at three intervals as depicted in the example property figure below: 0 to 6” bgs (A1), 6 to 12” bgs (A2), and 12 to 18” bgs (A3). A composite sample for each of the three intervals will be collected. The soil cuttings from the four Zone A1 samples will be placed in a suitable container and homogenized. The same procedure will be followed for the four Zone A2 and four Zone A3 samples.

One composite sample for each depth interval (a total of three composite samples) will be submitted and held at an offsite ELAP-certified laboratory. After the pre-excavation confirmation samples are analyzed and the appropriate excavation depth determined, the Contractor will instruct the laboratory, after obtaining approval from DTSC, on which composite samples to analyze and what TAT to use. The lab will be instructed to select equal volumes of soil from each interval to ensure a representative profile sample.

An appropriate disposal facility will be selected by the Contractor prior to soil excavation work at each property. The waste profiling will include laboratory analyses that is consistent with the identified disposal facility’s acceptance requirements. The acceptance requirements are facility-specific and may require analyses for select total metals, for total recoverable petroleum hydrocarbons (TRPH), and for volatile organic compounds (VOCs). Based on the initial results for total lead, solubility analyses including Toxicity Characteristic Leaching Procedure (TCLP) and Soluble Threshold Limit Concentration (STLC) may also be conducted.

DTSC will be notified by the Contractor before the excavated soil is transported to the disposal facility. Excavated soil will be transported to a disposal facility in accordance with the Transportation Plan (Appendix C) and the applicable jurisdiction specific Traffic Management Plan (Section 8.0).

5.7 EXCAVATION AREA, SAFETY, AND SECURITY

During all property preparation, excavation, and restoration activities, procedures will be implemented to ensure site safety, security, and control to protect residents from exposure and existing property features from damage. These procedures will include safe working distances, warning tape, manual digging, and temporary fencing and barriers. In addition, a protective material such as steel plates, plywood boards, or rubber curb guards to protect and prevent damage to existing driveways, sidewalks and patios may be used. The protective material will be selected based on property conditions on a case-by-case basis. Parkways in the loading zone will be covered with polyethylene (i.e., plastic)
sheeting and other protective materials to prevent contamination and facilitate loading of excavated soil, as needed.

Access to the areas to be cleaned up may require an encroachment permit (blocking sidewalk access) or traffic control permit (lane closures) from the jurisdiction (city or county) in which the work will be conducted. The Contractor will secure the required permits and provide notification to the appropriate jurisdictions prior to beginning excavation and backfilling activities.

During excavation and backfilling activities, property access will be restricted to authorized personnel only. The Contractor must ensure the area is secured and closed to the public during working hours. During non-working hours, access to the excavated areas will be controlled by the Contractor by placing barricades, temporary fencing (i.e., rigidly-erected orange safety fencing or temporary chain link fence), or other security measures along the edges of the excavation. The work area will be kept clean of any Contractor-generated waste material during work hours and after hours. All Contractor-generated waste material will be consolidated and hauled off from each property daily, or secured to prevent access overnight. Contractor-generated waste will not be disposed of in solid waste containers at the property.

Excavation operations and activities will stay a minimum of six (6) inches away from utility lines (e.g. gas, water, and sewer lines). Therefore, these lines will be protected in place. This will minimize the potential impact to these utilities as well as potential associated repairs to these lines. If the Contractor causes any damage to public or private utilities during excavation or backfilling activities, the damage will be addressed at the Contractor’s expense, with no expense to the property owner or DTSC. Excavations near electrical poles will be benched and will not exceed 12 inches in depth for a radius of 2 feet from the edge of the power pole.

The potential intrusion of fugitive dust into the residential structures will be minimized by using the dust suppression techniques discussed in Sections 6.2 and 6.3 and by requesting that all residence windows and doors be closed before excavation activities begin. Any ground floor windows remaining open when excavation activities are scheduled to begin will be sealed with plastic sheets prior to the start of any excavation activity. Vents, including window mounted air-conditioner inlet vents, will also be sealed with plastic sheets before excavation activities begin. Doors, windows, and vents will be periodically inspected during the day to ensure they remain closed. DTSC Field Operations staff will conduct reconnaissance during mobilization activities and direct the Contractor about sealing any open windows, ventilators, etc.

Best Management Practices (BMP) will be employed to provide a wind break between neighboring properties. If a property has fencing with at least 50% porosity, plastic sheeting will be secured near the area of the soil excavation activities.

If residents do not relocate and require access to the property during work hours, boot covers will be provided to the resident(s) when entering or exiting the residence. Walkways leading to the point of entry to the home must be kept clean of any residual soil.

At the daily completion of work, and as necessary during work hours, driveways and sidewalks on the property will be cleaned using HEPA-certified vacuums. If wet cleanup is necessary (e.g., power spray),
the water will be collected in a manner that prevents sediment from entering storm water inlets or other structures.

5.8 RELOCATION AND COMPENSATION

DTSC’s Temporary Relocation and Compensation Implementation Plan, (including any modifications, amendments, or addenda thereto subsequently approved by DTSC) addresses the temporary relocation assistance DTSC offers residents who choose to relocate and the types of, and eligibility criteria for, the compensation that may be provided to residents.

DTSC will discuss these options with the residents during the initial meeting and will implement the most recent version of the Temporary Relocation and Compensation Implementation Plan.

5.9 PUBLIC PARTICIPATION

DTSC’s Public Participation staff will conduct initial meetings and obtain property owner-signed access agreements. A DTSC representative will reach out to residents by phone, mail, or a home visit to obtain an access agreement from the owner of the property and coordinate scheduling the property for cleanup. Owners and residents will be contacted on a daily basis by the Contractor and DTSC throughout the cleanup period.

Seven (7) outreach zones have been established for more effective coordination and outreach. DTSC’s Public Participation Unit staff will carry out the following activities:

- Coordinate with property owners to obtain access agreements;
- Conduct initial meetings;
- Prepare relocation and compensation documents;
- Coordinate pre-construction meeting with property owners, Field Operations staff, and the Contractor;
- Resolve conflicts with property owners, as appropriate; and
- Obtain signed Property Closeout and Compensation Acknowledgement Form(s) from the property owner after completion of cleanup work.

The Contractor, at DTSC’s request, will provide work notices in English and Spanish to the surrounding community using a template provided by DTSC. The residents may remain on the property during the cleanup or, although not necessary, relocate during the cleanup.
6.0 EXCAVATION ACTIVITIES

This section will be used as guidance for preparing property-specific excavation plans. Lead-impacted soil will be excavated and transported offsite for disposal from the properties identified for cleanup within the PIA. Where feasible, properties adjacent to one another or within the same block that are identified for cleanup will be clustered—cleaned up simultaneously or sequentially. Excavation activities are described in the sections below.

6.1 EXCAVATION LIMITS

Areas identified in Property Plan will typically be excavated to a depth of 6, 12 or 18 inches bgs. The vertical and lateral extent of the excavation areas will be based on the concentrations of lead found in the soils and the accessibility of such soils for the excavation identified in the Property Plan.

As necessary, hand-held equipment will be used near existing fixed structures, utilities, mature trees, or other areas that would be difficult to excavate around or that could be damaged by mechanical equipment. Soil will not be excavated beneath fixed structures, roads, sidewalks, brick patios, driveways, or other inaccessible or permanent features. Excavations against structures (e.g., houses, garages, outbuildings, driveways, sidewalks, structural perimeter walls and fences), and patios will be hand dug to three (3) inches deep and six (6) inches away of any structure and then excavated to the maximum depth as required by the project plans using either a 1H:1V slope or benching in six (6)-inch increments, obtaining a maximum of a 1H:1V slope to maintain the integrity of the soil under these structures. If a planter is not structurally sound, the planter will be removed with concurrence of the property owner.

After the soil has been excavated, the boundaries of the excavation will be measured and documented with a tape measure or measuring wheel, photograph and/or GPS equipment to document that the excavation depth and outer limits were achieved.

6.1.1 SITE CLEARING AND DEBRIS REMOVAL

Prior to beginning soil excavation, the excavation zones will be cleared of obstructing debris and vegetation. Established trees and shrubs will not be removed. Small shrubs and other plantings less than four (4) feet in height and trunk diameter less than four (4) inches (i.e., excluding trees and mature shrubs) will be removed and disposed offsite with property owner concurrence. Areas within the biological root zone of trees or established shrubs will be excavated to a maximum depth of 6 inches to preserve the integrity and survivability of the trees and shrubs. The Contractor will measure pre-existing planted areas prior to soil excavation and clearly mark plants that are not to be removed.

Severely pruned trees or shrubs and stumps left in place below 4 feet height will be removed at the Contractor’s discretion if the removal will not compromise an adjacent feature or delay field work.

It will generally be the property owner’s and residents’ responsibility to remove personal items from the areas to be excavated. Generally, properties will be visited two to four weeks prior to mobilization to collect pre-excavation confirmation samples and evaluate the property conditions that may affect excavation and backfilling activities. As discussed in DTSC’s Temporary Relocation and Compensation Plan, property owners and residents who are physically unable to remove items located within the excavation areas may request assistance from DTSC. The cost incurred in moving the personal items to
another area of the property will be deducted from the compensation check paid to the property owner for replacement landscaping. If clearing the debris or personal property is anticipated to exceed $500, the Contractor must seek prior approval from DTSC Contract Manager.

Non-operating vehicles will not be moved by DTSC or the Contractor. The property owner must arrange for the removal and temporary storage of the vehicle while cleanup occurs at the property. If large areas of the property are obstructed by non-operating vehicles, debris, or other items restricting the ability to collect representative confirmation samples, pre-excavation confirmation samples will not be collected until such materials are removed by the resident or property owner.

If personal items are still present in areas of the property to be excavated at the time excavation is scheduled to occur, and DTSC has not received a request to move the item(s), the Contractor may do the following:

1. With the resident’s written permission, move the items to another area of the property. The cost incurred by the Contractor (as determined by actual time multiplied by the contract unit rate(s)) in moving the personal items to another area of the property will be deducted from the compensation check paid to the property owner for replacement landscaping and will be paid to the Contractor as compensation for this work;

2. If the personal items are located in an area that will not affect the excavation and backfilling activities, the personal items will be covered with polyethylene sheeting. The cost incurred by the Contractor in covering the personal items will be deducted from the compensation check paid to the property owner for replacement landscaping; or

3. Notify the resident or property owner that sampling and cleanup cannot occur until the resident or property owner removes those personal items.

Photographs will be taken in accordance with Section 5.3 above.

The location of the sprinklers and irrigation system must be flagged to prevent damage during excavation and the working condition documented before the start of excavation activities. If the property owner requests that the sprinklers or irrigation system be pull out and disposed of, the Contractor must obtain written consent. Debris encountered during excavation activities will be removed only to the extent that it interferes with the Contractor reaching the planned vertical and horizontal excavation limits. Otherwise, the presence of such debris will be documented and left undisturbed.

If other features (e.g., unregistered underground storage tanks, septic tanks, pipes, etc.) are identified that interfere with the planned excavation, the Contractor will cease excavation activities, document and photograph the location and depth of the feature(s), secure the area, and coordinate the appropriate next steps with DTSC’s Project Manager and any required regulatory agencies. The Contractor will maintain a log and document the presence of unregistered underground storage tanks, septic tanks, pipes, etc.
Any damage to the property or features (e.g., unregistered underground storage tanks, septic tanks, pipes, etc.) caused by the Contractor will be promptly fixed by the Contractor at the Contractor’s expense.

6.1.2 EQUIPMENT

Excavations will generally be conducted using small excavation equipment or hand tools. If wet cleanup is necessary (e.g., power spray), the water will be contained on plastic sheeting, collected, and sent to a water treatment facility to prevent sediment from entering storm water inlets or other structures; alternatively, the water will be used for dust suppression on lead-impacted soil or other waste that will be hauled off site for disposal. Jack hammers are not necessary or allowed. Soil must be wetted to soften and reduce the generation of dusts. Potential equipment to be used is listed below:

- Compact excavators and compact loaders for excavation and loading;
- A walk-behind compactor for soil compaction;
- Water from the residence for dust suppression and soil compaction efforts;
- Occasional use of a water buffalo may be required to increase water volume;
- If needed, a street sweeper attachment (with a filter to be changes out when necessary) for the compact excavator/loader to keep the cleanup area and access roads clean;
- A HEPA vacuum for use during and post-remediation cleanup activities;
- Trucks for exporting impacted soil (appropriately secured to eliminate dust), and importing clean backfill soil;
- Other hand-held equipment based on occasional field needs for areas not accessible by equipment; and
- Instrumentation for monitoring.

At the completion of the workday, excavation equipment may be parked on the property, and, in accordance with the local jurisdictions guidelines may be parked on a public street or in a nearby staging location.

6.1.3 SHORING AND SETBACKS

Excavations against structures (e.g., houses, garages, outbuildings, driveways, sidewalks, structural perimeter walls and fences), and patios will be hand dug to three (3) inches deep and six (6) inches away from any structures and then excavated to the maximum depth as required by the project plans using either a 1H:1V slope or benching in six (6)-inch increments, obtaining a maximum of a 1H:1V slope to maintain the integrity of the soil under these structures.

6.1.4 EXCAVATION PROCEDURES AND PROGRESSION

Each decision unit will be excavated to the proposed excavation extent identified in the Property Plan. Excavation will continue until a representative soil lead concentration of 80 ppm (based on a 95% UCL of the sample dataset) is achieved or a maximum depth of 18 inches bgs has been reached.

In a decision unit where discrete confirmation and characterization sample laboratory results show both the 12” and 18” depths will require excavation in different decision units, the areas to be excavated will
be determined on a case-by-case basis and documented in the Property Plan (i.e., the Contractor will contact DTSC for guidance regarding unique excavation scenarios).

Soil will be excavated and moved with mechanical or handheld equipment to established soil storage areas and placed in Super Sacks® or bins within the Exclusion Zone, or will be loaded directly on to trucks for off-hauling. The Exclusion Zone may shift as the work and excavation progresses. Stored soils will be maintained in areas that minimize inconveniences to residences.

The Contractor will use vehicles and containers that are of sound condition and are designed and maintained to contain and prevent fugitive lead dust during transport to the disposal facility. Polyethylene (plastic) sheeting, if necessary, will be used to line transport vehicles used for transporting waste off the property. Additionally, sufficient plastic material will be placed within the transportation vehicle to allow proper coverage of the soil. During loading, all necessary precautions must be taken to prevent track-out from the trucks or roll-off bins. Loaded trucks will be decontaminated by cleaning soil from fenders and tires. Each loaded truck will leave the property with a completed manifest or bill of lading for transport of soil or other material to the disposal location. Required soil loading and transportation routes are designated in the Transportation Plan (Appendix C) and jurisdiction specific traffic management plans.

Waste transportation will be performed by a California-licensed hazardous substances transporter. Personnel at the property will observe California Division of Occupational Safety and Health (Cal/OSHA) safety standards and follow the approved Health and Safety Plan (Appendix B), which addresses the safety of personnel entering excavations for the purposes of surveying and operating equipment.

6.1.5 SUPPLEMENTAL ENVIRONMENTAL CONTROLS

Project Design Features (PDFs) and mitigation measures identified in the Mitigation Monitoring and Reporting Program (MMRP) will be implemented and are integrated into the excavation, disposal, and restoration activities to avoid and mitigate impacts. The Contractor will prepare compliance summaries, as required by the MMRP, and submit them to DTSC monthly. Other environmental controls may be required if unforeseen conditions arise at the property undergoing cleanup. The MMRP is included in Appendix A for quick reference.

Cleanup will be conducted in a proactive manner to identify unforeseen property conditions that pose a threat to human health and the environment, and appropriate engineered measures will be developed to mitigate those conditions. If unforeseen conditions are identified, work will be transitioned to another portion of the property where these conditions will not affect the ongoing operations.

Although not anticipated to occur, if human remains or cultural resources are encountered, work will be stopped near the area until consultation with a Contractor-supplied archeologist has taken place. Based on the archeologist’s determination, work will continue or additional exploration will occur. DTSC must be notified immediately if remains or cultural resources are uncovered. Work will also be stopped if unsafe conditions arise. As necessary, DTSC will coordinate with other state and local agencies for
disposal of wastes and stabilization of property conditions other than lead contaminated soil encountered.

Although DTSC’s authority to address lead-based paint is limited, DTSC is committed to partnering with federal, state, and local agencies and affected residents to obtain resources to stabilize or abate lead-based paint hazards.

6.1.6 SURVEYING ACTIVITIES

If required for grading permits, the properties will be surveyed before cleanup and during restoration activities by a licensed Engineer or Land surveyor. In addition, if necessary, the property boundaries or fence post locations will be surveyed to replace fence posts that are removed, to avoid inadvertently moving the property lines.

For all other properties, the Contractor may utilize a measuring wheel and hand-held device equipped with GPS, to document sample coordinates and accessible property corners and/or available markers to nearest hundredth or 2 decimal places. GPS coordinates will be recorded and documented in the LOC. GPS coordinate recordings will take place during pre-excavation confirmation sampling and at the completion of excavation activities to document the extent of excavation.

6.2 DUST CONTROL

Dust emissions and control are regulated by South Coast Air Quality Management District (SCAQMD) rules applicable to particulate matter with diameter of 10 microns or less (PM$_{10}$). The rules are intended to reduce the amount of fugitive dusts when earth-moving activities are taking place at a property. Rule 403 applies to all sites where activities may generate dusts and Rule 1466 applies to sites with soils contaminated with Toxic Air Contaminants.

Dust control measures will be implemented during soil excavation in accordance with Rule 403 or Rule 1466 and backfill placement activities in accordance with Rule 403 and as required by the Health and Safety Plan (Appendix B).

6.2.1 DUST SUPPRESSION TECHNIQUES

A rule of “no visible dust” will be applied to all aspects of the work that involve soil excavation and backfill placement. To control the possible generation and migration of dust, the following procedures, at a minimum, will be implemented by the Contractor:

- Apply water directly to the planned area of excavation to be sufficiently mixed or penetrated with water prior to soil disturbance and during excavation activities;
- As needed, apply water amended with environmentally safe additives (e.g., Simple Green, Envirotech Vapor Suppression, or equivalent) or apply environmentally safe chemical foams to control fugitive dusts; Apply water during the truck loading and unloading operations, as appropriate;
- Promptly apply water to excavation, loading, or unloading operations upon any observance of dust;
- Control dust during operation of trucks by not allowing waste to be dropped from heights above the top rail of the truck body;
• Secure plastic sheeting on fencing with greater than 50% open space near the area of the soil excavation activities to provide a wind break;
• Monitor wind speed with a portable anemometer;
• Cease soil excavation activities if the wind speed is greater than 15 miles per hour (mph), averaged over a 15-minute period, or instantaneous wind speeds exceed 25 mph, and immediately secure or cover excavation areas and soils in a manner that does not generate fugitive lead dust;
• Cease soil excavation activities if readings between upwind and downwind monitoring instruments exceeds the following for PM$_{10}$:
  o 50 micrograms per cubic meter ($\mu$g/m$^3$) at properties where Rule 403 applies; or
  o 25 $\mu$g/m$^3$ at properties where Rule 1466 applies.
• If an exceedance is observed, stop work and apply water to the area of excavation, then:
  o Identify the source;
  o Take action to eliminate the source;
  o Confirm exceedance has subsided;
  o Return to work; and
  o Continue more frequent monitoring to ensure action has been effective.
• Inspect all rear gate seals and locking mechanisms on waste transport vehicles in order to prevent spillage and dust production;
• Use high efficiency particulate air (HEPA) vacuum to clean truck tires before they leave the loading areas to prevent track-out of soil;
• HEPA-vacuum all spilled soil within the loading area and work areas, as needed to prevent soil track-out;
• Following each day’s excavation activities, HEPA-vacuum all areas to remove any residual soils from walkways and driveways;
• Store equipment so that it does not generate fugitive dust immediately after completion of work;
• Vehicles, containers, and any attached equipment used for transporting contaminated soils must be in sound condition and the containers must be designed or maintained to contain and prevent fugitive lead dust during transport to the disposal facility; and
• Post signs with DTSC’s Hotline number 1-844-225-3887 and SCQAMD’s 1-800-CUT-SMOG number at the entrance and along perimeter.

To ensure compliance with the project performance standards and comply with Rule 403 and Rule 1466, air monitoring will be conducted as described in Section 6.3. Air monitoring results will be recorded on property-specific dust monitoring forms or in the field logbook.
6.2.2 SCAQMD Rule 403

Rule 403 requires the implementation of best available dust control measures during soil excavation and backfill placement activities capable of generating fugitive dust. All properties with estimated volumes less than 50 cubic yards are subject to the requirements of Rule 403 and the dust suppression techniques included in Section 6.2.1.

SCAQMD’s Rule 403 (Fugitive Dust) limits particulate matter with diameter of 10 microns or less (PM$_{10}$) to 50 µg/m$^3$ when determined by simultaneous sampling, as the difference between upwind and downwind samples collected and averaged over a 5-hour consecutive period. The Contractor may use industry acceptable dust monitors similar to the Thermo Scientific PDR-1000AN or Thermo Scientific PDR 1500.

For ease of implementation, the Contractor may elect to monitor at a more frequent basis consistent with Rule 1466 requirements. If an exceedance is observed, work will be temporarily stopped and the dust suppression techniques revisited to control any fugitive dusts. Work will not resume until there are no visible fugitive dusts.

While a Notification is not required under Rule 403, a Notification is required if the volume excavated at a property is 50 cubic yards or greater. A notification update with a change of exemption status must be submitted to SCAQMD as soon as the information becomes available but not later than 48 hours after the information becomes available.

6.2.3 SCAQMD Rule 1466

Rule 1466 requires the implementation of site controls and best available dust control measures during soil excavation, including stockpiling and loading, with toxic air contaminant(s), identified as contaminant(s) of concern at a site. The provisions in Rule 1466 are triggered when the anticipated excavation volume of contaminated soil is 50 cubic yards or greater. In addition, at least a 72 hour and not more than 30 days prior notification must be provided to SCAQMD. The notification must include following:

- Name, address, telephone number, and e-mail address of the Contractor;
- Name, telephone number, and e-mail address of the on-site dust control supervisor;
- Project name and, if applicable, the project identification number from the designating agency;
- Project location (address and/or coordinates);
- Identify whether the site is a school, early education center, joint use agreement property, or adjacent athletic area;
- A map indicating the specific location(s) of each earth-moving activity and the concentrations of the applicable toxic air contaminant(s) and location of PM$_{10}$ monitors;

---

8 “Fugitive dust means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.” (SCAQMD Rule 403, 2005)
9 Not less than 290 minutes and not more than 310 minutes.
10 Arsenic, asbestos, cadmium, hexavalent chromium, lead, mercury, nickel, or polychlorinated biphenyls
• A description of the earth-moving activities, estimated volume of soil with applicable toxic air contaminant(s), and a schedule that includes the anticipated start and completion dates of earth-moving activities;
• Current and/or previous type of operation(s) and use(s) at the site;
• Applicable exemption(s); and
• Whether the notice is a revised notification.

Dust control measures will be implemented during cleanup activities in accordance with SCAQMD Rule 1466 and the Health and Safety Plan.

Dust meters (i.e., DustTrak model 8530, DustTrak model 8532, or Thermo Scientific ADR1500 Dust Monitors or equivalent) will be used to document concentrations of airborne dust.

Dust levels will be monitored at property perimeters during excavation and loading activities as described in Section 6.3. When Super Sacks® containing lead-impacted soil or unfinished excavations are left overnight, the exposed portion will be covered with plastic to control dust emissions.

6.3 AIR MONITORING

Air monitoring will be performed during soil excavation and backfill placement activities to ensure that there is no fugitive dust from the impacted soils or fill materials, and that cleanup activities comply with California ambient air quality standards. Perimeter air monitoring will be conducted using real-time particulate monitors during soil excavation and backfill placement activities, as detailed in the Sections 6.3.1, 6.3.2 and 6.3.3. DTSC and the Contractor will periodically review the monitoring data at each property, and with the concurrence of a California Certified Industrial Hygienist (CIH), evaluate whether monitoring or work procedures may be adjusted.

6.3.1 REAL-TIME PARTICULATE MONITORS

Particulate dust monitors measure the total dust in the air. Three particulate dust monitors will be set up daily at each property:

• One monitor will be placed downwind of the excavation area to monitor the effects of the work;
• One monitor will be placed upwind of the excavation to monitor dust coming from sources unrelated to the work; and
• A third monitor will be placed at the property's closest entryway to excavation to identify particulates near the work area.

The Contractor will use compliant dust monitors (Section 6.2.1) to measure total suspended particles (TSP) in the air. These monitors measure aerosol particulates corresponding to PM$_{10}$.

Monitors will be placed each day prior to soil excavation and backfill placement activities, and the levels relative to the area-specific action level will be reviewed in accordance with the applicable SCAQMD rule during work hours. The Contractor will cease soil excavation activities if:

• The PM$_{10}$ exceeds 50 μg/m$^3$ at properties where Rule 403 applies; or
• The PM$_{10}$ exceeds 25 μg/m$^3$ at properties where Rule 1466 applies.
6.3.2 PERSONNEL AND PERIMETER AIR MONITORING

The Contractor will use personal air monitor (PAMs) cassettes for worker health and safety monitoring (breathing zone monitoring) in accordance with the Contractor’s Health and Safety Plan (Appendix B). The cassettes will be analyzed for lead at an offsite laboratory at the completion of excavation activities. The findings will be reviewed and documented. DTSC and the Contractor will periodically review the monitoring data at each property and with the concurrence of a CIH, evaluate whether breathing zone monitoring or work procedures may be adjusted.

In addition to the three dust monitors described above in Section 6.3.1, during soil excavation of lead-impacted soils at each property, a Gilian GilAir-5 model (or comparable) monitor will be co-located with a dust monitor at the property’s closest entry way to the excavation work. The sample(s) collected at this location will be analyzed for lead content at an offsite laboratory after completion of the excavation work. The findings will be reviewed and documented. The date, start time, end time, and air flow will be recorded on the sample cassette for analysis. DTSC and the Contractor will periodically review the monitoring data at each property and with the concurrence of a CIH, evaluate whether co-located monitoring or work procedures may be adjusted. Monitoring data will be included in the LOC.

6.3.3 AMBIENT AIR QUALITY MONITORING

Exhaust gas from running heavy equipment will be monitored to meet California Ambient Air Quality Standards as follows:

- Ozone (O₃): Not to exceed average concentration of 0.07 ppm in 8 hours;
- Carbon Monoxide (CO): Not to exceed average concentration of 9.0 ppm in 8 hours;
- Nitrogen Dioxide (NO₂): Not to exceed average concentration of 0.18 ppm in 1 hour;
- Sulfur Dioxide (SO₂): Not to exceed average concentration of 0.04 ppm in 24 hours;
- The Contractor must track project related emissions and implement one or more mitigation measures identified in the Greenhouse Gas Emissions Reduction Plan (Appendix D), if necessary. If mitigation is necessary, the Contractor must consider the development and implementation of neighborhood level plans and projects that support the use of multiple greenhouse gas reduction activities to achieve regional greenhouse gas reduction targets.

6.3.4 CALIFORNIA AIR RESOURCES BOARD ON-ROAD AND OFF-ROAD VEHICLE RULES

Airborne Toxic Control Measure (ATCM) limits heavy-duty diesel motor vehicle idling. The measure is intended to reduce public exposure to diesel Particulate Matter (PM) and other Toxic Air Contaminants...
(TACs). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes or within 100 feet of a restricted area.

Restricted areas include housing units, schools, hotels, motels, hospitals, senior care facilities, and child care facilities. However, idling is allowed in situations such as being stuck in traffic, staging/queuing, in areas beyond 100 feet of a school or residence, or idling for safety or weather reasons.

In addition to limiting exhaust from idling trucks, California Air Resources Board (CARB) promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets in compliance as of January 1, 2014. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower.

6.4 NOISE AND VIBRATION CONTROL

The Contractor must take steps to reduce, avoid, or mitigative noise and vibrations related to cleanup activities. This will include implementing PDFs NOI-1; NOI-2, and NOI-3 and mitigation measure NOI-1 in the manner described in the Noise Mitigation Plan (Appendix J). In addition, the Contractor will adhere to all applicable local jurisdiction noise policies and guidelines and will limit work hours to those specified by the local jurisdictions.

6.5 EROSION AND RUNOFF CONTROL

Runoff control measures will be implemented to control incidental runoff from the excavation areas. If excavation activities occur during the rainy season, California Storm Water Best Management Practices (BMPs), (e.g., sand bags, gravel bags, fiber rolls, filter fabric, etc.) will be required around the excavation area to prevent runoff from and run-on into the excavation area. The Contractor is responsible for implementing these measures and evaluating for proper functionality daily during excavation activities. In addition, control devices will be required at storm drain inlets located curbside (including a combination of filter fabric and gravel bags) in case of rain. Proposed erosion control devices will be shared with DTSC for review and approval.

Excavation will be scheduled outside of the rainy season to the extent possible, and surface water runoff and erosion control measures should minimize the water entering the excavation. Based on the amounts of water expected in the excavation, water storage capacity will be available to store water pumped from the excavation. Water stored in this tank will be sampled and analyzed prior to disposal at an appropriately permitted disposal facility.
6.5.1 EROSION CONTROL

The erosion control activities implemented during remediation are to prevent surface runoff from entering or exiting the work area. Note that coverage under the state’s National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities and an associated Storm Water Pollution Prevention Plan (SWPPP) may be required. In such cases, the Contractor will obtain coverage under the permit and prepare a SWPPP.

If excavation activities extend into the rainy season, drain inlet (DI) protection will be placed over storm drains for temporary protection. Berms will be placed around the excavation area (i.e., sand bags) to prevent run-off from and run-on into the excavation area, thereby minimizing the amount of impacted wastewater to be handled. These measures will be evaluated daily during active excavation activities to ensure that they function properly. To prevent sediment from leaving the work area during soil-disturbing activities, multiple erosion control BMPs will be used.

These BMPs may include hay bales and silt socks/fences for the perimeter of the property, as needed. In addition, inlet control devices (including a combination of filter fabric and sandbags) will be used in case of rain. Proposed erosion control devices will be subject to review and approval by DTSC.

The following storm water pollution prevention procedures also will be used:

- Monitor the weather forecast very closely. When rain is forecast, halt cleanup activities;
- Conduct the excavation in small sections so that, if rain begins to fall, the exposed excavation can be covered immediately to keep water out of the excavation;
- Use proper procedures to ensure that wet soil (mud) is not tracked offsite on the tires of trucks used for soil transportation. The procedure may include placing plastic sheeting at the loading area;
- Use plastic sheeting extensively to ensure that the area of excavation is protected from rain during off hours and during sudden heavy rain;
- Manage wastewater in accordance with the procedures described below; and
- Shut off irrigation systems during cleanup activities.

In general, except for dust and odor control measures, the excavation will be kept dry to ensure that no wastewater is generated and no environmental concerns arise, and to ensure that the excavation can be backfilled promptly.

6.5.2 WASTEWATER MANAGEMENT

To prevent fugitive dust during excavation activities, the excavated areas will be sprayed with a mist of water prior to soil removal. The amount of applied water will not saturate the soils, and no runoff is expected during this operation. Although they are not anticipated to be needed to prevent offsite migration of soil, silt socks (compost-filled fabric tubes), silt fences, or similar measures may be installed along the perimeter of the excavations in the direction of surface water runoff flow. If necessary during loading, water will be sprayed while the transport vehicle is located in a decontamination area consisting of plastic sheeting and a water collection point.
All water used for loading and decontamination will be captured and transported to an offsite facility licensed to handle this waste for treatment and disposal, or it will be used as dust suppression on soil or other waste that will be hauled offsite for disposal. Following excavation, dry decontamination methods (e.g., shovels to remove any fallen soil or brushes to loosen caked-on soil, followed by HEPA vacuuming) are anticipated to be used on transport trucks and on excavation equipment. No impact to water quality is anticipated.

Water absorption materials will be provided to capture all water and prevent runoff from leaving the property. This runoff includes any leaks in hoses or storm water from a rain event that may occur during site work.

6.6 DECONTAMINATION PROCEDURES

To prevent transfer of contamination off the property and residual contamination from being left on the property by excavation equipment and personnel, decontamination procedures consistent with the Project Health and Safety Plan will be followed. These procedures are summarized as follows:

- Before excavated waste is loaded into trucks, plastic sheeting will be placed on the ground or asphalt so that spilled waste cannot contact the ground surface. Trucks may be rolled back and forth to allow area property owners access to driveways and streets. In these cases, the plastic will be rolled back to the sidewalk so that the truck tires do not roll over spilled soil and deposit it into the gutter or street.
- When loading is complete, debris will be placed in the appropriate container for proper disposal, and the plastic sheeting will be folded and disposed daily;
- All equipment wheels and tires will be cleaned over plastic sheeting by means of shovels and stiff bristled brooms or brushes until they are fully cleaned.
- When cleaning is complete, debris will be placed in the appropriate container for proper disposal, and the plastic sheeting will be folded and disposed;
- A HEPA vacuum will be used on hardscape areas where residual impacts may be present following the excavation actions. A HEPA vacuum will be used on any spilt soils as necessary;
- PPE will be removed and discarded in the contamination reduction zone. Reusable items such as work boots will be decontaminated using the following two-stage process:
  - Vacuum boots, if necessary;
  - Wash the items in a detergent solution with a stiff-bristled brush and rinse them with clean water; and
  - Distribute the rinse water over contaminated soil (to be exported) for dust control.

The decontamination containers will be clearly marked and will identify the wash and rinse containers to be used. To avoid potential cross contamination, rinse water will only be applied to soil that will be sent for offsite disposal; it will not be applied to any of the open excavations.

6.7 POST-EXCAVATION CONFIRMATION SAMPLING

Post-cleanup confirmation samples are not required if the planned excavation is achieved and eight pre-exca
structure) prevent excavation to advance to the planned depth, after consultation with DTSC, a confirmation sample will be documented and collected. The confirmation samples will be collected at the bottom of the excavation (i.e., six (6) inch depth of a tree canopy) and will be submitted for laboratory analysis for lead using U.S. EPA Method 6010B.

Laboratory analytical results will be used to calculate post-removal Exposure Point Concentrations (EPCs) for surficial soils (0-18 inches) on the property. These analytical results may be supplemented with existing laboratory analytical results of soil samples collected for the property that were not excavated (i.e., left in place) to determine the post-remediation EPC for lead in surficial soils at each property.

If necessary, soil confirmation samples will be collected from the bottom of excavated areas where pre-excavation confirmation sampling has not been conducted at those depths (normally 18” excavated areas) to demonstrate that cleanup objectives have been achieved. Data collected from pre-excavation confirmation sampling will be combined with in-place backfill data, previous sampling data (laboratory results only), and post-excavation sampling data for the post cleanup evaluation. Excavation will continue until a representative soil lead concentration of 80 ppm or less or up to 18 inches of soil removal is achieved as determined through confirmation sampling and the post-cleanup evaluation for lead.

6.8 FIELD OVERSIGHT AND REPORTING

Field oversight of the excavation, disposal, and restoration work and associated activities is the responsibility of the Contractor. The Contractor is responsible for ensuring appropriate documentation of field activities, preparing periodic reports of cleanup progress, notifying other project team members as issues arise, and preparing and retaining the records for preparation of Property Plans and the LOC.

6.9 FIELD DOCUMENTATION

Field documentation of the cleanup activities will consist of, but may not be limited to:

- Daily, weekly, and monthly field reports;
- Compliance reporting tracking required by the MMRP and related plans;
- Documentation associated with soil confirmation sampling as outlined in Section 5.5;
- Documentation of waste soil profiling as outlined in Section 7.0;
- Copies of manifests or bill of lading for each shipment of soils for disposal;
- Documentation of any deviations from the Property Plan and identification of features encountered at the property that were not anticipated or where damaged and required repair; and
- Property closeout checklists.
7.0 WASTE MANAGEMENT

Soil to be excavated will be sampled and submitted for analysis to be profiled prior to beginning excavation. Based on the laboratory results, the disposal facility will be identified. In addition, properties will be clustered to ensure full trucks are sent for disposal. The Contractor will notify DTSC before the soil is transported to the disposal facility.

All wastes generated during cleanup activities will be transported to facilities that are operating under appropriate permits and in accordance with applicable regulations. The Contractor will select an appropriate facility based on permitting requirements, waste characterization, and environmental considerations. The treatment, storage, and disposal facility (TSDF) for the soil will be one or more of the following:

- Chiquita Canyon Landfill in the northwestern part of Los Angeles County;
- Simi Valley Landfill in eastern Ventura County;
- La Paz Landfill in southwest Arizona;
- South Yuma Landfill in southwest Arizona; and
- Kettleman Hills Landfill in Kings County (San Joaquin Valley).

All non-Resource Conservation and Recovery Act (RCRA) and RCRA hazardous waste will be transported under a Uniform Hazardous Waste Manifest. All nonhazardous waste will be transported under a Bill of Lading or Nonhazardous Waste Manifest.

After loading and decontamination, trucks will travel on the approved streets identified in the Transportation Plan (Appendix C). The field activities will also be consistent with jurisdiction-specific Traffic Management Plans (Section 8.0). All necessary precautions will be taken to prevent track-out from trucks. Trucks will be labeled during transport activities so that they are distinguishable from other trucks in the area.

The vehicles will undergo dry decontamination (e.g., shovels to remove any fallen soil and brushes to loosen caked-on soil, followed by HEPA vacuuming, if necessary). Following the transporter’s departure, residual soils will be removed from the decontamination area using the techniques described in Section 6.6 of this Work Plan. In addition, all loading operations will be conducted atop plastic sheeting to avoid the potential spread of impacted waste.

7.1 SOIL MANAGEMENT, STORING, AND PROFILING

Waste materials generated during soil excavation include, but may not be limited to: small shrubs and other plantings less than four (4) feet in height; soil impacted with lead; water used to decontaminate sampling and personnel protective equipment.

Soil may be loaded directly from the excavation into bins, trucks or loaded into Super Sacks® and be kept on-site until loaded on off-hauling trucks. Excavated soil placed in Super Sacks® or bins will be placed on top of a plastic liner to reduce potential contamination of underlying surface soil or pavement. The Super Sacks® or bins will be covered with plastic sheeting to control dust and reduce infiltration of any rainwater in accordance with BMPs and SCAQMD Rule 1466.
Super Sacks® or bins will be maintained in designated zones that minimize access and inconveniences to residences. The Super Sacks® or bins will be labeled with the property address, contents, and, if appropriate, the decision unit (e.g., the front yard or back yard). Signs indicating the contents will be placed adjacent to the Super Sacks® or bin(s) staging area facing the street.

Prior to leaving the property, a manifest or bill of lading will be prepared documenting the material to be hauled offsite. The truck and bin will be inspected to ensure that the load is properly covered and that the truck and bin have been properly decontaminated. Each loaded truck will leave the property with a completed manifest or bill of lading, signed by DTSC, for transport of soil or other material to the disposal location. Soil loading and off-haul routes are designated in the Transportation Plan (Appendix C).

The TSDFs to be utilized by the Contractor for disposal of soil removed from the properties covered by the cleanup are identified in the Transportation Plan (Appendix C). These facilities are permitted for the acceptance of the following three waste classifications anticipated to be generated during the soil removal activities: 1) lead-impacted non-hazardous waste; 2) non-RCRA hazardous waste (i.e., California hazardous waste); and 3) and RCRA hazardous waste.

In addition to the facilities identified in the Transportation Plan, non-hazardous waste may also be handled at local landfills, including: Chiquita Canyon Landfill in Castaic, California; Azusa Landfill in Azusa, California; or Waste Management Simi Valley Landfill in Simi Valley, California.

A tracking and recordkeeping system will be implemented to manage storage of soil generated from the excavation. The guidelines for tracking and recordkeeping are included in Section 5.6 of this plan and in Section 3.1 of the Quality Assurance Project Plan. The information that will be recorded and tracked includes:

- Identification number that links the stored excavated soil with the excavation source;
- Location of the stored excavated soil within the property;
- Date(s) stored soil was generated and approximate volume;
- Sampling information, including number of samples collected, sample identifiers, date of sampling, and requested analyses; and
- Analytical data that characterizes the stored soil.

The recordkeeping system will track the soil from the time of excavation until it is placed in a truck for off-haul. It is anticipated that the soil will be disposed offsite as either nonhazardous or California hazardous waste.

### 7.2 LOAD CHECKING

Prior to leaving the property, the origin (i.e., which Super Sacks® or bin, which portion of the excavation) will be documented as described in Section 7.1 of this Work Plan. A manifest or bill of lading will be prepared. The truck will be inspected to ensure that the load is properly secured and covered and that the truck has been properly decontaminated.
8.0 TRANSPORTATION AND TRAFFIC MANAGEMENT

The Contractor will be responsible for complying with the Transportation Plan (Appendix C) and a Traffic Management Plan (Appendix H) for each jurisdiction within the PIA prepared in accordance with PDF TRANS-1 (MMRP).

Pursuant to the Traffic Management Plans, the Contractor must, among other things: provide waste characteristics; use the Exide Residential Cleanup-specific US EPA Identification (EPA ID) Number; identify the destination, mode of transportation, and designated route description(s); minimize community impacts; follow traffic control and loading procedures; obtain and display Department of Transportation placarding; follow the record keeping protocol; and follow health and safety measures.

Each loaded truck will leave the property with a completed manifest or bill of lading, signed by DTSC, for transport of soil or other material to the disposal location. Soil loading and off-haul routes are designated in the Transportation Plan (Appendix C), and traffic safety and coordination are addressed in the Traffic Management Plans, in accordance with the requirements below:

8.1 PDF TRANS-1 – DEVELOP TRAFFIC MANAGEMENT PLAN

DTSC shall develop a Traffic Management Plan template for the Contractor covering properties located within the PIA. The Contractor will submit a Traffic Management Plan to each jurisdiction (city and county) for review and approval prior to initiation of cleanup activities. Traffic Management Plans may differ depending on the specific requirements of each jurisdiction.

8.2 PDF TRANS-2 – COORDINATE ROUTES WITH LOCAL JURISDICTIONS

DTSC’s Public Participation Plan, in combination with the jurisdiction-specific Traffic Management Plans prepared by the Contractor in coordination with each local jurisdiction, will ensure the routes and times are properly coordinated to avoid high traffic areas or areas where other projects are underway.

8.3 PDF TRANS-3 – COORDINATE WITH LOCAL AUTHORITIES

DTSC’s Public Participation Plan, in combination with the Traffic Plan prepared by the Contractor in coordination with the local jurisdictions and authorities, will ensure the routes and times are properly coordinated to conduct cleanup activities during times when students/children are not present, such as scheduled breaks, and to inform them of planned cleanup of properties in the immediate vicinity of these uses when they are in session.

8.4 TRAFFIC CONTROL PLAN DRAWINGS

The Contractor must adhere to the following:

- Caltrans’ Traffic Control System for Lane Closure, will be used in conjunction with W.A.T.C.H. to create flagging for instances of road lane closure.
- Caltrans’ RSP T30 and T32, Traffic Temporary Pedestrian Access Routes, will be used in conjunction with W.A.T.C.H. to create pedestrian access for sidewalk closure.
- The W.A.T.C.H. will be used to create flagging requirements for traffic leaving and entering the project sites where lanes will not be closed.
8.5 PERMITTING

The Contractor must obtain encroachment permits a minimum of two weeks prior to beginning excavation at a specific property to allow time for jurisdiction coordination.
9.0 BACKFILL AND RESTORATION

Each property will be excavated to the approved depth as illustrated in the Property Plan. The Property Plan must identify the requirements for backfilling and restoration. For excavations that are 12 inches or deeper, backfilling will be conducted as follows:

- Excavations in open areas located where the foundation of a structure is not compromised by the excavation will be backfilled with topsoil to within two (2) to three (3) inches below ground surface (bgs). The soil will be compacted by passing a compaction plate over it covering a minimum of 3 passes. The finished surface will be backfilled with planter box mix, and overlaid with landscaping material in accordance with the restoration plan.

- Excavations against structures (e.g., houses, garages, outbuildings, driveways, sidewalks, structural perimeter walls and fences), and patios will be hand dug to three (3) inches deep and six (6) away from any structure and then excavated to the maximum depth as required by the project plans using either a 1H:1V slope or benching in six (6)-inch increments, obtaining a maximum of a 1H:1V slope to maintain the integrity of the soil under these structures. A grading permit will be obtained from the local building and safety agency, if required. The Contractor will comply with the structural backfill material prescribed by the local building and safety agency.

- Backfill material will contain enough organic and mineral content to support planting.

9.1 BACKFILL SOURCE EVALUATION

Soil samples of backfill materials (e.g., topsoil, planter box mix or structural) will be collected prior to use and will be submitted by the Contractor for laboratory analysis. The sampling procedures will follow DTSC’s Information Advisory for Clean Imported Fill Material, dated October 2001. Backfill materials will be free from roots and other large organic matter, as well as trash, debris, and stones larger than ¾-inch in any dimension.

In general, the fill source area must be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to ensure that the fill does not include pesticides, fungicides, and herbicides or former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous materials were used, handled, or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil.

To prevent the potential of introducing contaminated fill material onto a property, it is necessary to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. The documentation must be signed by an appropriately licensed (CA-registered) individual. Analysis of the fill material must be based on the source of the fill and knowledge of the prior land use (see Tables 2 and 3).
### Table 2 - Potential Contaminants for Fill Source Area\(^\text{11}\)

<table>
<thead>
<tr>
<th>Fill Source Area</th>
<th>Potential Target Compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land near an existing freeway</td>
<td>Lead, PAHs</td>
</tr>
<tr>
<td>Land near a mining area or rock quarry</td>
<td>Metals, Asbestos, pH</td>
</tr>
<tr>
<td>Agricultural land</td>
<td>Pesticides, Herbicides, Metals</td>
</tr>
<tr>
<td>Residential or commercial land</td>
<td>VOCs, SVOCs, TPH, PCBs, Metals, Asbestos</td>
</tr>
</tbody>
</table>

### Table 3 - Recommended Fill Material Sampling Frequency\(^\text{12}\)

<table>
<thead>
<tr>
<th>Extent of Individual Borrow Area</th>
<th>Number of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 acres or less</td>
<td>Minimum of 4 samples</td>
</tr>
<tr>
<td>2 to 4 acres</td>
<td>Minimum of 1 sample for every 0.5 acres</td>
</tr>
<tr>
<td>4 to 10 acres</td>
<td>Minimum of 8 samples</td>
</tr>
<tr>
<td>Greater than 10 acres</td>
<td>Minimum of 8 locations with 4 subsamples per location</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volume of Borrow Area Stockpile</th>
<th>No. of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1,000 cubic yards</td>
<td>1 sample for 250 cubic yards</td>
</tr>
<tr>
<td>1,000 to 5,000 cubic yards</td>
<td>4 samples for first 1,000 cubic yards; 1 sample per each additional 500 cubic yards</td>
</tr>
<tr>
<td>Greater than 5,000 cubic yards</td>
<td>12 samples for first 5,000 cubic yards; 1 sample per each additional 1,000 cubic yards</td>
</tr>
</tbody>
</table>

#### 9.1.1 Topsoil

Topsoil material will be a natural, friable soil with enough organic content and nutrients to sustain the growth of plants and will be lightly compacted. The topsoil will be free of trash or other deleterious debris. The maximum particle size will be ¾-inch, and rocks larger than 1/8-inch will not exceed five (5) percent of the total weight. The topsoil will be screened, as required, so that the maximum particle size is not exceeded. Topsoil samples will be collected prior to use and will be submitted for laboratory analysis in accordance with the DTSC’s *Information Advisory for Clean Imported Fill Material*, dated October 2001. The analysis will also be used to determine the appropriate soil nutrients and organic content. The topsoil must be free of total petroleum hydrocarbons, volatile and semi-volatile organic compounds, asbestos, polychlorinated biphenyls, pesticides, fungicides, and herbicides.

#### 9.2 Site Restoration Activities

The restoration of each property will be done in accordance with Section 6.12 of the Cleanup Plan and the Property Plan. The Property Plan must include a property-specific restoration plan approved in

---

\(^\text{11}\) From DTSC (2001).

\(^\text{12}\) From *DTSC Information Advisory, Clean Imported Fill* (DTSC, 2001).
writing by DTSC Project Management. This section is a guide for preparing property-specific restoration plans and determining how much reimbursement the property owner may be eligible for, if any.

The Contractor must document and photograph the conditions of the property before any work on the property has begun and after the restoration is completed. Photographs taken after the restoration will be attached to the LOC.

9.2.1 BACKFILLING AND GRADING

Backfilling operations will begin after excavation activities are completed. All areas requiring backfilling will be backfilled and graded to the pre-excavation grades, except as necessary to permit adequate drainage (with the notification and acceptance of the property owner). Topsoil, also known as planter box mix, will be placed into the excavation in 6-inch lifts and compacted sufficiently to avoid future settling and drainage issues. Structural fill, if used, will be compacted to a minimum of 90% of the maximum dry density as determined by ASTM D-1557. The compaction reports, if prepared, will be included in the LOC.

The surface of the backfill will be graded in accordance with the property-specific restoration plan for each property, if applicable. The ground surface will be graded to match existing grades at the edge of the excavation. Grade control will be performed to confirm the appropriate grades and to make modifications, as necessary.

9.3 RESTORATION OPTIONS

After the properties have been backfilled with clean fill material, the Contractor will restore the landscape with compatible landscape materials to existing conditions and water conservation goals. The properties will be restored with one or a combination of the following restoration options, depending on any local jurisdiction ordinances and existing landscape:

- Drought Tolerant & Low Maintenance;
- LADWP\textsuperscript{13} California Friendly\textsuperscript{\textregistered} Landscape Incentive Program; and
- DTSC’s Sustainable Landscaping.

For a summary of the restoration options refer to Table 4. The property owner must select from the options available for the front yard, back yard, and side yards during the initial or pre-construction meeting. The property owner must sign the draft restoration plan. The restoration plan will be reviewed and included in the Property Plan by the Contractor for review and approval by DTSC Project Management before field excavation activities begin. Photographs will be taken during the initial meeting or preconstruction meeting to document the landscaping conditions (i.e., mature plants, plants that will not be removed, planters with plants and unique restoration materials).

The main goal of the Drought Tolerant & Low Maintenance and two (2) Sustainable Landscaping options is to conserve water and energy, reduce waste and provide beneficial improvements to the environment by using native and drought tolerant plants. Drought Tolerant landscaping may be used on all parts of

\textsuperscript{13} Los Angeles Department of Water and Power
the property where the soil has been excavated and disposed; however, some limitations apply to Sustainable Landscaping.

Properties must have at least 250 square feet of turf in the front yard and be in the City of Los Angeles to be eligible for the LADWP California Friendly® Landscape Incentive Program. In addition, pictures must be taken before the property is disturbed. Pictures documenting at least 250 square feet of turf must be submitted to LADWP for review and approval before excavation activities take place. Property owners electing this option must notify DTSC at the initial meeting to allow for the appropriate planning.

DTSC’s Sustainable Landscaping has less restrictions but requires that either the entire front yard or back yard or both up to 1,000 square feet are landscaped using one of the four templates depicted in Figures 6 through 9.

To maximize the use of a cost-effective and environmentally friendly restoration option, a property owner may select Drought Tolerant as the restoration option even if the property consists of bare soil.

Table 4 summarizes these options and Tables 5 through 7 provide a template for documenting the anticipated volume of restoration materials needed for each property. The property-specific restoration plan must clearly mark plants that are to be removed or left in place. Established trees or shrubs above 4 feet in height or 4- inch in trunk diameter and their roots will not be removed. If property owners cut the size of an established shrub or tree to less than 4 feet and requests that it be removed, a written approval from DTSC’s Contract Manager is required. The Contractor will provide an estimate of the additional costs, if any. Once approved, DTSC may coordinate its removal with the Contractor. If the removal of the shrub or tree or its roots would compromise existing foundations or pavement, it will not be removed.

9.3.1 **DROUGHT TOLERANT & LOW MAINTENANCE OPTION**

Drought Tolerant & Low Maintenance is an option for all properties, including those with bare soil. Properties will be restored by installing limited quantities of sod, decomposed granite, mulch, and/or rock (red or black lava rock or other comparable rock) in a manner that is consistent with local ordinances to employ water-conserving designs and techniques. Drought Tolerant landscapes will be encouraged at all properties. The amount of sod at any property may not exceed any local jurisdiction mandates established to comply with water conservation mandates. Compensation for plants removed will be provided based on measurement of planted area.

Drought Tolerant and Low Maintenance involves restoring the excavated portions of the property with the following surface materials: sod, lava rock, mulch, and/or decomposed granite. Mature trees and shrubs are preserved as are any plants identified by the owners to be saved at the time of the initial or pre-construction meetings. The Property owner may select a combination of materials for landscape restoration based on existing and clearly defined property features (i.e. planters, front yard, side yard, backyard, driveway). Property owners may not request “enhancements” to existing landscaping that substantially changes the layout or design of property features (i.e., placement of non-existing trails, etc.).
9.3.2 **SUSTAINABLE LANDSCAPING OPTIONS**

Sustainable landscaping, also known as green landscaping, is a method to design, create, and maintain a landscape to save time, money, and energy. These landscapes support native plants and wildlife; reduce air, soil, and water pollution; and make healthy recreation spaces. These landscapes, despite the use of the term “green”, do not promote or encourage the use of sod as the landscaping choice. Therefore, to prevent potential confusion regarding the appearance of this alternative, the term “sustainable” will be used.

This option includes restoration of the excavated areas with mulch/bark and other groundcover to help retain moisture in the soil. Native plant species appropriate for the Los Angeles County climate are used. Depending on the option selected, a rain capturing feature such as a rain garden, rain barrel, cistern, infiltration trench, or vegetated swale may also be included. The plants must be selected from the palette and are provided by the Contractor.

Under this option, a property owner may select from either of the following programs:

9.3.2.1 **LADWP California Friendly® Landscape Incentive Program**

This sustainable landscaping option is available for properties within the City of Los Angeles. To qualify for this restoration option the property must also have a **minimum pre-existing 250 ft² of turf in the front yard** or if the entire front yard has less than 250 square feet of turf grass, all present turf must be removed. Pictures must be taken to document the existing site conditions before any cleanup occurs. Please refer to Table 4 for summary. Under this option, all sprinklers must be capped, removed, or converted to drip irrigation. All turf must be removed and covered with weed barrier material. The option may include a rain capturing feature—a rain garden, rain barrel, cistern, infiltration trench, vegetated swale, or retention pond. At maturity, the California Friendly® plants will fill in 50 percent of the landscape area. At least three inches of mulch surround the plants and cover all exposed soil. Only 25 percent or less of the project area may be covered with non-vegetated material like pavers, gravel, decomposed granite, etc. No artificial turf may be installed. All exposed soil is covered with permeable weed barrier, preferably organic, and at least a three-inch layer of mulch or permeable surface.

9.3.2.2 **DTSC’s Sustainable Landscaping**

This sustainable landscaping option is available for all properties within the PIA and may be used on properties with existing bare soil. This option may be used in either the entire front yard or back yard or up to 1,000 ft². Under this option, all exposed soil is covered with permeable weed barrier, and at least a three-inch layer of mulch or bark. This option includes the option to use buffalo grass and other native plant species from an approved palette. **Sod and rock is not included in this option.**

Up to **1,000 square feet of total yard area of a property**, including front, side, and back yards, may be restored with sustainable landscaping. Properties where sustainable landscaping is selected as the restoration option will be restored using the design template(s) for property restoration provided by DTSC. The design templates options include:

- front yard sunny (Figure 6);
- front yard shady (Figure 7);
See Figures 6 through 9 for sustainable landscaping design templates. Sustainable landscaping involves replacing the sod or bare soil with drought tolerant grass (i.e., buffalo grass) or other surface landscape material such as bark or another type of mulch. During the pre-construction meeting, DTSC and the Contractor will map and identify any existing trees to match the landscaping with the sunny or shady (front or back yard) template. This restoration option includes the following:

- **Drip Irrigation**: A battery-operated hose-end timer, a pressure reducer for connection to existing property hose bib, and a dripline will be installed to facilitate establishment of vegetation;
- **Ground Cover**: Two choices including
  - mulch or bark; and
  - buffalo grass plugs installed 12 inches apart;
- **Plants and Trees**: Native and climate appropriate plants will be chosen according to a plant palette included in Figures 6 through 9 and Appendix G, or the current templates and Appendix G, if amended by DTSC. The Contractor will procure the plants and complete the landscaping in accordance with the property-specific restoration plan signed by the property owners.

When installing plants, the Contractor will:
- Group plants with the same water needs;
- Space plants according to their eventual mature size;
- Limit the number of plants based on the lot size and types of plants selected; and
- Install plugs of grass 12-inches apart.
**Table 4 – Restoration Options and Materials**

<table>
<thead>
<tr>
<th>Drought Tolerant &amp; Low Maintenance Landscaping</th>
<th>Sustainable Landscaping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited water-use landscape</td>
<td>California Friendly® Landscape Incentive Program</td>
</tr>
<tr>
<td>• Available for existing bare soil properties</td>
<td>• Must be selected at Initial Meeting to allow for LADWP coordination <em>(time sensitive)</em></td>
</tr>
<tr>
<td>• Amount of sod installed must comply with State of California and local Jurisdiction mandates for water conservation</td>
<td>• Must be located in the City of Los Angeles</td>
</tr>
<tr>
<td>• Types of ground covering available:</td>
<td>• Must have minimum pre-existing 250 ft² of turf.</td>
</tr>
<tr>
<td>o Lava rock (red or black)</td>
<td>• Must restore the front yard.</td>
</tr>
<tr>
<td>o Mulch/bark</td>
<td>• 1,500 ft² maximum area to be landscaped</td>
</tr>
<tr>
<td>o Decomposed granite (walkways only or strips of land no more than 3.5 feet wide)</td>
<td>• No rocks allowed</td>
</tr>
<tr>
<td>o Gravel or aggregate base available for parking areas</td>
<td>• No sod allowed</td>
</tr>
</tbody>
</table>

- Use Table 5
- Use Table 6
- Use Table 7
The property-specific restoration plan will identify the appropriately licensed subcontractors that will perform the landscaping work. **It will be the responsibility of the individual homeowners to maintain and water landscaping after installation.**

DTSC’s Public Participation or the Contractor will discuss the landscaping options with the property owner at the initial meeting. At that time, the restoration options and instructions about removing personal items from the property will be discussed with the property owner. The property owner will be instructed to remove debris or personal property from the areas to be sampled and excavated. If the debris or personal property will interfere with sampling or excavation, field activities at that property may be delayed.

Written confirmation from the property owner with the owner’s signature and date on the property landscape drawing to document that the property owner has voluntarily approved the draft property-specific restoration plan will be obtained by DTSC or the Contractor. Pictures documenting pre-existing landscaping materials will be taken by DTSC and the selection of the restoration options to replace landscaping materials identified on the signed landscape drawing.

Before any work on a property begins, the Contractor will coordinate with DTSC and the property owner to collect pre-excavation confirmation samples and identify property specific features that may prevent or obstruct the implementation of cleanup activities. See Section 6.1.1 Site Clearing and Debris Removal, for site conditions that may prevent the collection of pre-excavation confirmation samples, excavation, and backfilling activities.

A property-specific restoration plan and a completed Property Measurements and Restoration Quantities table using the templates provided by DTSC will be finalized by the Contractor and will be included in the Property Plan. The property-specific restoration plan will include a property plot plan with square footage of excavated land to be landscaped and the location of requested restoration materials. A template for the drawing is provided below in Figure 5. The Property Measurements and Restoration Quantities table will document the measurements of the areas to be restored and the quantities and types of materials to be used in the restoration. A template for the table is provided below in Table 5. The Contractor may not mobilize to a property unless the Property Plan has been finalized, approved, and uploaded into EQuIS.

**A change to the planned landscaping by the property owner is not allowed after the selection has been made unless coordinated and approved with DTSC Project Management and the Contractor no less than five (5) business days** prior to scheduled field activities, and the change can be accommodated without an additional cost (i.e., change in color of lava rock or change to less costly restoration option). If a change is desired by the property owner, the owner must notify the Contractor and DTSC at least five (5) businesses days prior to the date field work is scheduled. If the notice is provided within the permissible period, DTSC will immediately notify the Contractor of the change. If the notice by the property owner is made less than five (5) business days prior to scheduled field activities, DTSC will inform the property owner that their request cannot be honored.

---

14 Not including weekends or holidays.
The Contractor will provide the property owner and residents with instructions, to be approved by DTSC, on how to maintain the landscaping. In addition, the Contractor will inform the owner and residents that it will be their responsibility to carry out that maintenance.

Figure 5 - Typical Property Specific Landscaping Options
### TABLE 5 - DROUGHT TOLERANT LANDSCAPING

<table>
<thead>
<tr>
<th>DROUGHT TOLERANT &amp; LOW MAINTENANCE LANDSCAPING AREAS</th>
<th>MEASUREMENTS AND RESTORATION QUANTITIES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RESTORATION AREAS</strong></td>
<td><strong>AREA (ft²)</strong></td>
<td><strong>NOTES</strong></td>
</tr>
<tr>
<td>Pre-Existing Planted¹</td>
<td></td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total Restoration Area²</strong></td>
<td></td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GROUND COVER</strong></td>
<td><strong>AREA (ft²)</strong></td>
<td><strong>DEPTH (IN.)</strong></td>
</tr>
<tr>
<td>Sod or Grass</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td>Lava Rock</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td>Mulch/Bark</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td>Decomposed Granite</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td>Gravel/Aggregate Base</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>6 in</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>6 in</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td>Topsoil</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
<tr>
<td>Screen Fill Soil/Sand</td>
<td></td>
<td><strong>DESCRIPTION</strong></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>ft²</strong></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1 Typically, this is a planter stretching across the front part of a yard. Areas not subject to excavation are not included.
2 This excludes the hardscape and other areas not subject to excavation.
**TABLE 6 - CALIFORNIA FRIENDLY SUSTAINABLE® LANDSCAPING**

**MUST BE IN CITY OF LOS ANGELES--TIME SENSITIVE, SEE TABLE 4**

<table>
<thead>
<tr>
<th>CALIFORNIA FRIENDLY SUSTAINABLE®</th>
<th>MEASUREMENTS AND RESTORATION QUANTITIES</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RESTORATION AREAS</strong></td>
<td><strong>AREA (ft²)</strong></td>
<td><strong>NOTES</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>Pre-Existing Planted¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td><strong>Total Restoration Area²</strong></td>
<td></td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td><strong>GROUND COVER</strong></td>
<td><strong>AREA (ft²)</strong></td>
<td><strong>DEPTH (IN.)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sod or Grass, Rock, and Decomposed Granite MAY NOT BE USED.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mulch/Bark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>3 in</td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Topsoil</td>
<td>(list various depths)</td>
<td>3 in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Screen Fill Soil/Sand</td>
<td>(list various depths)</td>
<td>3 in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLANTS AND TREES</td>
<td><strong>AREA (ft²)</strong></td>
<td><strong>NOTES</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>Trees³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard (maturity)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard (maturity)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Drought Tolerant Plants⁴</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard (maturity)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard (maturity)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1 This excludes the hardscape and other areas not subject to excavation.
2 Plants will be spaced according to their eventual mature size. The number of plants provided will depend on the lot size and types of plants selected.
3 Select from palette in Appendix G. The number of plants provided will depend on the lot size and types of plants selected.
<table>
<thead>
<tr>
<th>Restoration Areas</th>
<th>Area (ft²)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Existing Planted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total Restoration Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Ground Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (ft²)</td>
<td>Depth (in.)</td>
<td>Volume (cy)</td>
</tr>
<tr>
<td>Buffalo Grass</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May not be used.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bark/Mulch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>3 in</td>
<td>cy</td>
</tr>
<tr>
<td>Back Yard</td>
<td>3 in</td>
<td>cy</td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Decomposed Granite (DG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Topsoil</td>
<td>(list various depths)</td>
<td>cy</td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Screen Fill Soil/Sand</td>
<td>(list various depths)</td>
<td>cy</td>
</tr>
<tr>
<td>Front Yard</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Back Yard</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td>cy</td>
</tr>
<tr>
<td>Plants and Trees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (ft²)</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>Trees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard (maturity area)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard (maturity area)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Drought Tolerant Plants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Yard (maturity area)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Back Yard (maturity area)</td>
<td>ft²</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>ft²</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. This excludes the hardscape and other areas not subject to excavation.
2. Or other lawn alternative material as specified in the templates (see Figures 6 and 8).
3. Plants will be spaced according to their eventual mature size. The number of plants provided will depend on the lot size and types of plants selected.
4. Select from palette in Appendix G. The number of plants provided will depend on the lot size and types of plants selected.

Maximum of 1,000 ft². Must be combined with Table 5 if area over 1,000 ft², see Table 4.
FRONT YARD
SUN/NO TREES TEMPLATE

Figure 6 – Sustainable Landscaping Design Template: Front Yard Sun/No Trees
FRONT YARD SHADE/TREES TEMPLATE

Figure 7 – Sustainable Landscaping Design Template: Front Yard Shade/Trees
Figure 8 – Sustainable Landscaping Design Template: Backyard Sunny
Figure 9 – Sustainable Landscaping Design Template: Backyard Shade/Trees
9.4 RESTORATION MATERIALS

9.4.1 MULCH, LAVA ROCK, OR DECOMPOSED GRANITE

Properties where mulch, lava rock, or decomposed granite has been selected as the landscape material will be backfilled with clean top soil to within two (2) to three (3) inches below ground surface (bgs) and compacted to allow for the placement of the mulch, rock, or decomposed granite. A fabric or other permeable weed barrier will be installed beneath mulch or rock. Decomposed granite may only be used for walkways or strips of land no more than 3.5 feet wide.

9.4.2 SOD

Properties where sod has been selected as one of the restoration materials will be restored with sod that tolerates the local climate condition conditions. After the topsoil is placed, it will be tilled to a depth of two (2) inches for acceptance of sod. The topsoil will be moistened before the sod is laid. The sod will be laid tightly together with no open joints visible and no overlapping. End joints will be staggered by a minimum of 12 inches. To ensure a good bond between sod and soil, the sod will be rolled using rollers not exceeding 100 pounds or using suitable wooden or metal tampers. Sod will be watered immediately after installation to a saturation depth of approximately three (3) inches. It will be the responsibility of the individual homeowners to maintain and water new sod after installation. In general, new sod should be watered twice a day for a 15- to 20-minute duration.

9.5 PLANT REIMBURSEMENT

Prior to excavation activities, the Contractor, in coordination with DTSC, will measure pre-existing planted areas to determine the appropriate compensation for replacement landscaping. The amount of reimbursement, if any, will be calculated using the figures stated in the Property Measurements and Restoration Quantities table.

DTSC will compensate the property owner in accordance with DTSC’s Temporary Relocation & Compensation Implementation Plan (revised November 2, 2017), and any subsequent amendments made thereto. The property owner must sign and submit a Compensation Acknowledgment Form to DTSC upon receiving compensation for replacement landscaping.

9.6 POST-CLEANUP INTERIOR CLEANING

DTSC is offering interior cleaning as a precautionary measure to prevent potential residual exposure from lead in dust or soil inadvertently tracked into the residence. During the Initial and/or Pre-construction Meeting, DTSC will discuss with the resident the option to include interior cleaning. The resident must provide access to the interior of the residence within two (2) days after the property has been cleaned up. The dates may be extended if coordinated with the Contractor but may not occur after the property closeout has been conducted.16

When requested by the property owner, the Contractor must perform interior living space (i.e., living rooms, dining rooms, bathrooms, bedrooms) cleaning for the property after the cleanup completion.

15 The type of mulch shall be pre-approved by DTSC.
16 Temporary Relocation and Compensation Plan.
The interior cleaning services will include vacuuming the floors, carpets, upholstery, and draperies in interior living spaces with a high efficiency particulate air (HEPA) vacuum cleaner, followed by wet wipe cleaning of horizontal hard surfaces in interior living spaces where applicable. The Contractor will work directly with residents to schedule the interior cleaning. Prior to scheduling the interior cleaning service, DTSC must instruct the home owner to clear the areas subject to the cleaning work.
10.0 HEALTH AND SAFETY MONITORING

Cleanup activities include soil excavation, soil loading and off-hauling, backfilling, and landscaping. The Health and Safety Plan (Appendix B) establishes site-specific health and safety procedures to be followed during the cleanup. Contractors are required to follow the plans approved by DTSC.

The Contractor will perform worker and perimeter air monitoring during excavation and backfilling activities. The air monitoring approach described in Section 6.3 presents the requirements and methods to collect air monitoring data during cleanup activities. If specific action levels are exceeded, corrective action including worker upgrade to a higher PPE and/or stopping work and implementing additional control measures such as dust suppression will be undertaken.
11.0 LETTER OF COMPLETION

The Contractor will prepare a Letter of Completion (LOC) for each property using a current template provided by DTSC. A template is provided in Appendix F, which may be subject to modifications by DTSC in the future. The LOC will be prepared after the excavation, disposal, and restoration activities have been completed at a property. The LOC will document the following: work performed; any difficulties encountered; confirmation sampling results and comparison to the performance standards; written and tabular summary of disposal activities (including volumes removed and excavation depths); and results of restoration activities. The LOC must also include a post-cleanup evaluation for the property and include the following:

- Documentation of project activities, sample locations, analytical results for lead, findings, and recommendations, including a Post-Cleanup Evaluation for Lead;
- Signed access agreements;
- Copies of permits;
- Copies of receipts for work performed (including wage loss and tenant relocation documentation);
- Interior cleaning (if requested);
- Signed final inspection/agreement form;
- CDPH Abatement of Lead Hazards Evaluation Notification Form 8551 or later version;
- CDPH Lead Hazard Evaluation Report Form 8552 or later version;
- Tables and figures presenting discrete and composite laboratory analyses of soil samples;
- Backfill compaction test results (if completed);
- Figures that illustrate the work areas, sample, and excavation locations; and
- Photographic chronology of the project as an attachment.

Letters of Completion will be signed and stamped by a Lead Certified Industrial Hygienist and California-Licensed Civil Engineer. The LOC will be provided to the Property Owner (and tenant if requested) under a cover letter approved by DTSC. See Appendix F for a more detailed table of contents and template.

11.1 POST-CLEANUP EVALUATION

The post-cleanup evaluation will assess the residual lead concentrations for surficial soils (0-18 inches) for the entire property, not just the area addressed by the excavation activities. The evaluation will include data collected during the confirmation sampling activities, data collected during previous property investigations, and data obtained from imported soil fill sampling. The summary should include the minimum and maximum soil lead concentrations, the mean soil lead concentration, the 95% UCL of the mean (for surface soils) as determined with U.S. EPA-approved ProUCL software, and the cleanup goal for the property.
12.0 REFERENCES

Arcadis, 2016-2018. Sampling Reports Pursuant to the Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA). And associated verified sampling data and chain of custody forms. (Confidential – Contains Private Individual Data Subject to Redaction)


DTSC, 2015h. Soil Sampling Results and Analysis in the Initial Assessment Areas.


DTSC, 2016a. Addendum 1 to the Quality Assurance Project Plan (QAPP) for Sampling and Analysis of Properties in the Vicinity of the Exide Facility. December.


DTSC, 2016e. Letters Ruttan to Laughton LAUSD re DTSC Review of Soil Sampling Results and Soil Removal Work at Eastman Avenue Elementary School, 4112 East Olympic Boulevard, Los Angeles, California 90023; Expanded Area School SCH-11. And Attachments. August 9.
Amended Master Excavation, Disposal, and Restoration Design Plan

DTSC, 2016f. Letters Ruttan to Laughton LAUSD re DTSC Review of Soil Sampling Results and Soil Removal Work at Eastman Avenue Elementary School, 4112 East Olympic Boulevard, Los Angeles, California 90023; Expanded Area School SCH-11. And Attachments. August 17.


DTSC, 2016h. Letters Ruttan to Laughton LAUSD re Results of Soil Sampling at Fishburn Avenue Middle School and Clemente Charter, 5701 Fishburn Avenue, Maywood, California

DTSC, 2016i. Letters Ruttan to Laughton LAUSD re Results of Soil Sampling at Lorena Street Elementary School, 1015 Lorena Street, Los Angeles, California 90023; Expanded Area School SCH-07. And Attachments. June 29.

DTSC, 2016j. Letters Ruttan to LAUSD re NFA. Various.


DTSC, 2017c. TCRA Action Memos. (Confidential – Contains Private Individual Data Subject to Redaction)


DTSC, 2018. TCRA Action Memos. (Confidential – Contains Private Individual Data Subject to Redaction)


EFI Global, 2016-2018. Sampling Reports Pursuant to the Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA). And associated verified sampling data and chain of custody forms. (Confidential – Contains Private Individual Data Subject to Redaction)


Los Angeles County, 2015-2016a. Sampling Data Pursuant to the Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA).

Los Angeles County, 2015-2016b. Sampling Reports Pursuant to the Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA). (Confidential – Contains Private Individual Data Subject to Redaction)


Parsons, 2015b. Final Offsite Interim Remedial Measures Work Plan (IRMW), November.


Parsons, 2015-2016a. Sampling Data Pursuant to the Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA).

Parsons, 2015-2016b. Sampling Reports Pursuant to the Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, CA). And associated verified sampling data and chain of custody forms. (Confidential – Contains Private Individual Data Subject to Redaction)


Parsons, 2016b. Closure Reports. (Confidential – Contains Private Individual Data Subject to Redaction)


Parsons, 2016g. Sampling Addendum to the November 18, 2015 Final Workplan Sampling and Analysis of Properties in the Vicinity of the Exide Facility (Vernon, California). March.

Parsons, various. Other contract and sampling related files.


Appendix A – Mitigation Monitoring and Reporting Program

The Mitigation Monitoring and Reporting Program (MMRP) can be found on DTSC’s website at the following link, and below:


The MMRP includes the required Project Design Features (PDF) and Mitigation Measures for the Project and are presented by impact area, with an accompanying identification of the following:

- Method of Verification: The action the Enforcement Agency will employ to ensure compliance with the identified PDF or required Mitigation Measure.
- Enforcement Agency: The agency with the power to enforce the PDF or Mitigation Measure.
- Timing of Implementation/Monitoring Frequency: The timing and frequency the method of verification will be enforced to ensure the PDF or Mitigation Measure is being implemented and monitored.
- Verification/Approval Party: This column provides a place for staff sign-off, including date and initials, to indicate compliance with and implementation of the PDF or Mitigation Measure.

The MMRPs will be in-place throughout implementation of the Cleanup Plan. The PDFs and Mitigation Measures must be implemented by the Contractor during cleanup activities. DTSC will periodically verify that the identified PDFs or required Mitigation Measures have been implemented.

Minor changes and modifications to the MMRP are permitted, but can only be made if the revised measure will achieve the same level of protection. This flexibility is necessary due to the potential for real world conditions to differ slightly throughout the PIA (e.g., lot size, number of properties to be cleaned up, roadway conditions, etc.) as well as the potential need to make modifications to reflect any relevant updates to applicable federal, State, and local government requirements and best management practices. No changes will be permitted unless the MMRP continues to satisfy the requirements of CEQA, as determined by DTSC.
### PROJECT DESIGN FEATURES MITIGATION MONITORING AND REPORTING PROGRAM

<table>
<thead>
<tr>
<th>Project Design Features</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-1:</strong> All off-road diesel equipment greater than 50 horsepower (hp) used for this Project shall meet USEPA Tier 4 off-road emission standards. Documentation of all off-road diesel equipment used for this Project including Tier 4 certification shall be maintained and made available to DTSC for inspection upon request. If Tier 4 equipment is not available, all off-road diesel-powered equipment greater than 50 hp shall meet USEPA Tier 3 emissions standards where available. All equipment shall be outfitted with Best Available Control Technology (BACT) devices including a CARB certified Level 3 Diesel Particulate Filter or equivalent.</td>
<td>Included in Contractors’ scopes of work and agreements; Written verification, including documentation from the equipment manufacturer or retrofit Contractor/installer.</td>
<td>DTSC</td>
<td>Section 6.3.3</td>
<td>Prior to each piece of equipment being brought to the site, the Contractor shall collect and submit its specific verification to DTSC. Current copies shall be kept with the cleanup Contractor’s on-site supervisor. Inspections shall be conducted at least monthly by DTSC’s Contractor during implementation of cleanup activities. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-2:</strong> All trucks transporting soil to the appropriate receiving facility shall be model year 2010 or newer or retrofitted to comply with USEPA Year 2007 emissions standards. A copy of each unit’s certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.</td>
<td>Included in Contractors’ scopes of work and agreements; Written verification; Hauling Contractor(s) will provide written record prior to being allowed site access; Maintenance of a written log with truck engine model year or retrofit certification, Vehicle Identification Number (VIN), and license plate number; the log will be updated as needed and will be available for inspection upon request by DTSC. Copies of the certification with the information specified will be acceptable in place of the log.</td>
<td>DTSC</td>
<td>Section 6.3.3</td>
<td>Prior to commencement of activities and during all construction and cleanup activities. Periodic inspections shall be conducted DTSC’s Contractor; inspections of truck logs will be conducted at least monthly by DTSC’s Contractor during cleanup activities. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td>Verification/Approval Party</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>PDF AQ-3</strong>: Idling of on- and off-road heavy-duty diesel vehicles for more than five minutes at a time is prohibited. This Project design feature is consistent with California regulations and laws, as well as CARB Air Toxics Control Measure (ATCM) requirements. Exemptions to the idling rule include heavy traffic conditions, queuing beyond 100 feet from sensitive land uses, and remaining motionless due to weather or safety inspection activities.</td>
<td>Hauling and cleanup Contractors shall inform all operators of on- and off-road heavy-duty diesel equipment of ATCM requirements associated with idling and monitor on-site compliance.</td>
<td>DTSC</td>
<td>Section 6.3.3</td>
<td>Ongoing during cleanup activities. Inspections shall be conducted routinely by DTSC's Contractor. Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-4</strong>: Fugitive dust control measures consistent with SCAQMD rules and regulations must be implemented. Dust control measures appropriate to each activity with the potential to generate dust shall be implemented. Measures shall include frequent water spraying of soil prior to and during excavation and consolidation of soils, limiting the amount and time materials are stockpiled, watering during installation of clean fill and landscaping materials, and ceasing work when wind speeds exceed 20 mph, and immediately securing or covering excavation areas and soils.</td>
<td>Contractors shall comply with SCAQMD rules and regulations during the cleanup activities as noted in the measure.</td>
<td>DTSC</td>
<td>Section 6.2</td>
<td>Ongoing during cleanup activities. Inspections shall be conducted routinely by DTSC's Contractor to ensure no visible dust. Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-5</strong>: Fence line monitoring for particulate matter emissions shall be conducted continuously during active cleanup. Monitoring shall be conducted with direct reading instruments with data logging capabilities (i.e. DustTrak or mini RAM or handheld wind and weather monitoring devices). One monitor shall be placed upwind and another placed downwind at each property or cluster during cleanup activities. The Contractor shall review the data routinely to direct the application of best management practices (BMPs) and other dust reduction strategies to ensure that there is no visible dust in accordance with SCAQMD Rule 403.</td>
<td>Monitoring equipment/instruments</td>
<td>DTSC</td>
<td>Section 6.3</td>
<td>Ongoing by Contractors during cleanup activities. DTSC's Contractor shall review air monitoring data hourly. Inspections shall be conducted by DTSC's Contractor during all active soil excavation and placement. Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-6</strong>: To prevent leaking, polyethylene sheeting will be used to line all transport vehicles used for offsite transport of soils. Sufficient sheeting material will be placed in the transport vehicle to cover and wrap the waste within the vehicle. Secured, strapped-down covers will be installed to prevent fugitive lead dust during transport to the disposal facility.</td>
<td>Visual inspection</td>
<td>DTSC</td>
<td>Section 6.1.5</td>
<td>Visual inspections will be ongoing by Contractor prior to loading of haul vehicles with soil. Cover to be secured prior to departure from property to disposal facility. Inspections shall be conducted routinely by DTSC’s Contractor. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-7</strong>: Immediately after completion of the work for the day and prior to exiting the property excavation equipment will be completely covered, decontaminated by wet wash or by a high-efficiency particulate air (HEPA) filter vacuum equipped with a filter rated by the manufacturer to achieve 99.9 percent capture efficiency for 0.3-micron particles.</td>
<td>Visual inspection</td>
<td>DTSC</td>
<td>Section 6.2</td>
<td>Contractor to inspect daily at the end of work day and prior to equipment being removed from a property. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td><strong>PDF AQ-8</strong>: Prior to leaving a property, dry decontamination of each haul truck, and other delivery trucks that come in contact with impacted soil will be performed. Trucks will be inspected and loose debris removed from tire wells and truck exterior. Rear gate seals and locking mechanisms on waste transport vehicles will be inspected before leaving the property. Truck drivers must be licensed to transport and have the proper training and registration by the State, and as applicable to the material they will be transporting. Trucks transporting hazardous waste are required to maintain a hazardous waste manifest that describes the content of the materials. These manifests will be prepared and signed and supplied by DTSC a hazardous waste transporter before leaving the property. The contracted trucking company will be a certified hazardous waste transportation Contractor, if the material is profiled as hazardous. All trucks carrying hazardous waste will also be required to display a yellow flag that will be visible to pedestrians.</td>
<td>Maintenance log of manifest data for export trucks, including vehicle license plates and time of departure; Copies of manifests shall be submitted weekly to DTSC; Verification that haul truck drivers are licensed to transport hazardous waste if load is characterized as hazardous waste.</td>
<td>DTSC</td>
<td>Section 6.1.3</td>
<td>Prior to trucks leaving a property, DTSC’s Contractor shall conduct inspections. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td>Verification/Approval Party</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>manifest data will be maintained on-site and made available to DTSC for inspection upon request. Copies of the manifests will be submitted to DTSC for filing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDF AQ-9: Trucks entering and leaving the cleanup area are required to follow a DTSC-approved traffic plan that establishes the trucking route, days and hours of truck operation, the maximum number of trucks per day, and various requirements to provide traffic, pedestrian, and bicycle safety. Truck operators will be provided with a trucking route map and hours of operation allowed.</td>
<td>Tail gate meetings and approved truck haul route map.</td>
<td>DTSC and affected jurisdictions</td>
<td>Section 7</td>
<td>Contractor shall monitor continuously during cleanup activities for DTSC. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>PDF AQ-10: At the end of each workday, driveways, sidewalks, and streets in the cleanup area shall be cleaned using a HEPA-certified vacuum. If wet cleanup is necessary, the water will be collected in a manner that will prevent sediment from entering storm water inlets or other structures.</td>
<td>Visual inspection</td>
<td>DTSC</td>
<td>Section 6.1.2</td>
<td>Contractors to conduct daily at the end of each workday. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>Cultural Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDF CUL-1: In the event a historical resource identified on Table 4.2-2 requires cleanup such that the character-defining landscape would be adversely impacted, the preservation specialist shall survey and document in digital photography the character-defining features of the landscape that maybe affected. The preservation specialist shall provide design and rehabilitation recommendations in accordance to the Secretary of the Interior’s Standards for Rehabilitation and the Guidelines for Rehabilitating Cultural Landscapes: Standards for Rehabilitation (Standards) presented in a landscape rehabilitation recommendation report. After re-landscaping has been completed, the preservation specialist shall review affected properties to ensure the character-defining features of the landscape are retained and preserved and prepare a substantial project completion monitoring report.</td>
<td>Review of Table 4.2-2 (attached) to determine if property is listed; If cleanup occurs on a property listed on Table 4.2-2, preservation specialist shall prepare a report; After completion of re-landscaping inspection by preservation specialist shall occur and a monitoring report prepared.</td>
<td>DTSC</td>
<td>Section 6.1.6</td>
<td>Prior to commencement of cleanup addresses to be checked against Table 4.2-2. If property is listed on Table 4.2-2, preservation specialist shall conduct survey and document landscape prior to commencement of cleanup. Project completion monitoring report prepared by preservation specialist after re-landscaping completed.</td>
<td></td>
</tr>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td>Verification/Approval Party</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>PDF CUL-2: The DTSC shall retain a qualified archaeologist who shall conduct a Cultural Resources Sensitivity Training Session for appropriate personnel prior to commencement of cleanup activities. The training session shall be carried out by the qualified archaeologist and will focus on how to identify archaeological resources that may be encountered during earthmoving activities, and the procedures to be followed in such an event. The training session shall include a presentation and/or handouts for all attendees. In the event that historic or prehistoric archaeological resources (e.g., bottles, foundations, refuse dumps, Native American artifacts or features, etc.) are unearthed during ground-disturbing activities, the DTSC shall halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated by a qualified archaeologist. A buffer area shall be established around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. The DTSC shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources if they are determined to be a “historical resource” pursuant to CEQA Guidelines Section 15064.5(a) or a “unique archaeological resource” pursuant to Public Resources Code Section 21083.2(g). The treatment measures established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources, and Public Resources Code Sections 21083.2(b) and 21083.2(c) for unique archaeological resources. Preservation in place (i.e., avoidance) shall be considered as a treatment measure first. If preservation in place is not feasible, treatment may include the implementation of archaeological data recovery excavations to remove the resource from the Project site along with subsequent laboratory processing and analysis. The archaeologist shall prepare a final report and appropriate California Department of Parks and Recreation Site Forms at the conclusion of treatment and/or the any follow-up archaeological construction monitoring. The report shall include a description of resources unearthed, if any, treatment of the resources, results of the artifact processing, analysis, and research, and evaluation of the resources.</td>
<td>Training for Contractor crews shall be documented: If resources are unearthed work shall stop and be redirected to allow for evaluation; If resources are unearthed a treatment plan shall be prepared by an archaeologist; Final report shall be prepared by an archaeologist.</td>
<td>DTSC</td>
<td>Section 6.1.6</td>
<td>Contractor to conduct and participate in training prior to commencement of cleanup activities (training). Contractor shall cease work immediately if resources are unearthed and comply with PDF Cul-2. The Contractor shall also notify DTSC immediately (within 2 hours) if resources are unearthed.</td>
<td></td>
</tr>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td>Verification/Approval Party</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>PDF CUL-3: If human remains are encountered unexpectedly during Project implementation, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. In addition, the DTSC shall comply with the provisions in CEQA Guidelines Section 15064.5(e).</td>
<td>If human remains are encountered work shall stop and be redirected to allow for evaluation; County Coroner shall make written findings regarding the origin and disposition.</td>
<td>DTSC</td>
<td>Section 6.1.6</td>
<td>As needed, if human remains are encountered. Contractor shall cease work immediately if human remains are unearthed and comply with PDF Cul-3. The Contractor shall also notify DTSC immediately (within 1 hour) if human remains are unearthed.</td>
<td></td>
</tr>
<tr>
<td>Geology and Soils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDF GEO-1: A final grading plan, and grading permit, if required, shall be submitted to the appropriate jurisdictional agency for approval. The grading plan shall include the following:</td>
<td>Property Specific Excavation, Disposal, and Restoration Design Plan (final grading plan) approved by appropriate jurisdiction; Grading permit if required; Visual inspections on properties.</td>
<td>DTSC and jurisdiction in which property is located</td>
<td>Section 6.1</td>
<td>Contractor to submit prior to commencement of cleanup activities Contractor to conduct pre- and post-excavation survey as well as a survey of final grade for all properties that are cleaned up Contractor shall include approved grading permit and grading plan within Remedial Action Completion Report. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
</tbody>
</table>
### Project Design Features

- Best management practices (see PDF GEO-3) shall be implemented to prevent storm water run-on or runoff and to minimize dust generation.

### Method of Verification

- Visual inspection during rainy season, during rain events, and during periods of forecast rains.
- Prepare SWPPP prior to any ground disturbance greater than one acre.

### Enforcement Agency

- DTSC

### Work Plan Section

- Section 6.5
- Section 6.5.1
- Section 6.5.2

### Timing of Implementation/Monitoring Frequency

- Daily during rainy season and/or events during cleanup activities.
- Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.
Use proper procedures to ensure that wet soil (mud) is not tracked offsite on the tires of trucks used for soil transportation. The procedure may include placing plastic sheeting at the loading area;

Use plastic sheeting extensively to ensure that the area of excavation is protected from rain during off hours, when rain is predicted, and during sudden heavy rain. Manage wastewater in accordance with the procedures described below; and

No irrigation systems shall operate during cleanup activities on sensitive land use properties.

<table>
<thead>
<tr>
<th>Project Design Features</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use proper procedures to ensure that wet soil (mud) is not tracked offsite on the tires of trucks used for soil transportation. The procedure may include placing plastic sheeting at the loading area;</td>
<td>Contractor shall document sample results prior to utilizing fill based on DTSC’s recommended fill material sampling schedule and Clean Imported Fill Material Information Advisory (2001)); Visual inspection of grading for property restoration.</td>
<td>DTSC</td>
<td>Section 9.1</td>
<td>Review of documentation of sample results for each fill material supplier Ongoing as needed if supplier of backfill materials or their primary source is changed during the cleanup Routine inspection of properties prior to completion of restoration DTSC requires that all backfill shall be compacted to a minimum of 90% of the maximum dry density as determined by ASTM D-1557 Contractor to include compaction reports in the Remedial Action Completion Reports Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
</tbody>
</table>

Greenhouse Gas Emissions
<table>
<thead>
<tr>
<th>Project Design Features</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF GHG-1</td>
<td>If fuel for the Project is purchased outside of California, the Contractor shall provide documentation that this out-of-state-fuel complies with the California Low Carbon Fuel Standard.</td>
<td>DTSC</td>
<td>Section 5.1 Section 6.3.3</td>
<td>Continuously by Contractors during cleanup activities. Inspections shall be conducted monthly by DTSC’s Contractor. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td>DTSC Section 5.1 Section 6.3.3</td>
</tr>
</tbody>
</table>

**Hazards and Hazardous Materials**

| PDF HAZ-1               | Maintenance log of manifest data for export trucks, including vehicle license plates and time of departure; Copies of manifests shall be submitted weekly to DTSC; Verification of registration that haul truck drivers are licensed to transport hazardous waste if load is characterized as hazardous waste. | DTSC               | Section 5.4 Section 6.1.5 Section 6.6 | Prior to trucks leaving a property, DTSC’s Contractor shall conduct inspections. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt. | DTSC Section 5.4 Section 6.1.5 Section 6.6 |
A Health and Safety Plan (HSP) must be developed and implemented for the proposed activities and will include the following:

- General hazard controls
- Monitoring requirements
- Traffic control
- Physical hazard controls such as noise and temperature extremes

Designated areas for chemical storage and handling must be identified. Refueling of equipment must be conducted in areas, which provide containment in the event of spills. The HSP must be reviewed for the Project activities and must include the following:

- Procedures to mitigate potential hazards,
- Measures that provide protection from physical hazards,
- Measures that provide protection from chemical hazards that might be present at the property,
- Decontamination procedures, and
- Worker and health and safety monitoring criteria to be implemented during Project activities, if needed.

Per CFR, title 29, Part 1910, Hazardous Waste Operations and Emergency Response Standard, safety training requirements for workers must be met in order to conduct cleanup or emergency response operations. Associated worker safety training must occur before ground-disturbing activities began. Work zones must be marked clearly with barricades or construction fencing to control unauthorized access to the areas. In addition, if dust or chemical monitoring is required during cleanup activities, it will be implemented according to the HSP, which will list the proper action limits.

<table>
<thead>
<tr>
<th>Project Design Features</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
</table>
| PDF HAZ-2: A Health and Safety Plan (HSP) must be developed and implemented for the proposed activities and will include the following:  
- General hazard controls  
- Monitoring requirements  
- Traffic control  
- Physical hazard controls such as noise and temperature extremes  
Designated areas for chemical storage and handling must be identified. Refueling of equipment must be conducted in areas, which provide containment in the event of spills. The HSP must be reviewed for the Project activities and must include the following:  
- Procedures to mitigate potential hazards,  
- Measures that provide protection from physical hazards,  
- Measures that provide protection from chemical hazards that might be present at the property,  
- Decontamination procedures, and  
- Worker and health and safety monitoring criteria to be implemented during Project activities, if needed.  
Per CFR, title 29, Part 1910, Hazardous Waste Operations and Emergency Response Standard, safety training requirements for workers must be met in order to conduct cleanup or emergency response operations. Associated worker safety training must occur before ground-disturbing activities began. Work zones must be marked clearly with barricades or construction fencing to control unauthorized access to the areas. In addition, if dust or chemical monitoring is required during cleanup activities, it will be implemented according to the HSP, which will list the proper action limits. | Health and Safety Plan Daily tailgate meetings;  
Documentation of required training;  
Visual inspection of work zones clearly marked off. | Appendix B | Contractor to conduct daily tailgate meetings prior to commencement of cleanup activities at each property within the PIA.  
Work zones - Daily inspections by Contractor of properties undergoing cleanup.  
Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt. |
## Project Design Features

<table>
<thead>
<tr>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual inspection</td>
<td>DTSC</td>
<td>Section 6.5</td>
<td>Contractor to inspect daily during cleanup activities. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
</tr>
</tbody>
</table>

## Noise and Vibration

<table>
<thead>
<tr>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initials</td>
</tr>
</tbody>
</table>

**PDF HAZ-3:** To comply with General Permit conditions, a Storm Water Pollution Prevention Plan (SWPPP) will include descriptions of BMPs that will reduce the potential for discharge of pollutants in runoff into the storm drain system during cleanup activities. Typical BMPs include silt fences, fiber rolls, stockpile management, spill prevention and control, and the use of protective sheeting or tarps prior to any rain event on steep slopes. BMPs will minimize erosion from, and stabilization of, disturbed surfaces. The SWPPP will require that all structural and non-structural BMPs be installed and implemented in accordance with approved plans and specifications prior to the beginning of cleanup activities.

**PDF NOI-1:** Implement Noise Complaint Reporting:
- Establish a telephone hot-line for use by the public to report any perceived significant adverse noise conditions associated with the Project. This hot-line telephone number will be posted at the property during cleanup in a manner visible to passersby. This telephone number will be maintained until the Project has been completed.
- Notify residents of schedules and provide a place for them to discuss noise concerns.
- Include a plan to coordinate with schools and possibly residents to minimize noise impacts on students and teachers to the extent feasible.
- Educate Contractors and their employees to be sensitive to noise impact problems and noise control methods to help operators and supervisors become more aware of the construction site noise problem and to implement the various methods of improving the conditions. A training program for equipment operators is recommended to instruct them in methods of operating their equipment to minimize noise impacts.

Conduct a test of hot-line to ensure it is enabled; Training conducted for Contractors.

<table>
<thead>
<tr>
<th>DTSC</th>
<th>Section 5.1</th>
<th>Section 6.4</th>
<th>All Contractors are trained prior to commencement of cleanup activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td><strong>PDF NOI-2: Implement Best Management Construction Practices:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Adjust all audible back-up alarms downward in sound level to the extent allowable for</td>
<td>Included in Contractors' scopes of work and agreements. Inspection of properties during</td>
<td>DTSC</td>
<td>Section 6.4</td>
</tr>
<tr>
<td>their intended safety purposes, reflecting vicinities that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed, for reducing reliance on high-amplitude sonic alarms.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Place stationary noise sources, such as generators and air compressors, on the property away from affected noise-sensitive receivers.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PDF NOI-3: Implement Equipment Noise Reduction Measures:</strong></td>
<td>Included in Contractors' scopes of work and agreements.</td>
<td>DTSC</td>
<td>Section 6.4</td>
</tr>
<tr>
<td>• Place stationary noise generators as far from sensitive receptors as possible.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ensure pneumatic impact tools and equipment used at the property will have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Equip noise-generating equipment operated at a property with the most effective noise control devices, i.e., mufflers, lagging, and/or motor enclosures. Properly maintain all equipment to assure that no additional noise, due to worn or improperly maintained parts, will be generated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Schedule cleanup activities so as to avoid operating numerous pieces of noise-generating equipment simultaneously in close proximity to the boundary of properties or clusters under active cleanup.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Provide impact noise producing equipment with noise attenuating shields, shrouds, or portable barriers or enclosures, to reduce operating</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Line or cover truck beds and storage bins with sound-deadening material (e.g., apply wood or rubber liners to metal bin impact surfaces).
- Provide upgraded mufflers, acoustical lining, or acoustical paneling for other noisy equipment, including internal combustion engines.
- Use alternative procedures of construction and select a combination of techniques that generate the least overall noise and vibration.
- Use construction equipment manufactured or modified to reduce noise and vibration emissions, such as:
  - Electric instead of diesel-powered equipment, and
  - Hydraulic tools instead of pneumatic tools.

### Transportation

| PDF TRANS-1: DTSC shall develop and submit a Traffic Management Plan covering properties located within the PIA to each jurisdiction (city and county) for review and approval, prior to initiation of cleanup activities. Traffic Management Plans may differ depending on the specific requirements of each jurisdiction, but all of the plans shall address the following: | Traffic Management Plan approved by affected jurisdiction(s) or agencies; Public Information Plan; Visual inspection to ensure implementation. | DTSC and affected jurisdictions and agencies | Section 8.1 | Contractor to implement prior to commencement of cleanup activities within an affected jurisdiction
Contractor to conduct routine inspections during cleanup activities.
Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt. |
<table>
<thead>
<tr>
<th>Project Design Features</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Develop a temporary traffic control plan that includes elements such as the following:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All transport vehicles used for offsite transport of soils shall use strapped-down covers to prevent materials from leaving the truck during transport;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Identify designated truck routes in each jurisdiction and direct truck traffic to those routes;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Identify all bike paths and all transit facilities, such as bus stops, where cleanup activities are anticipated and request that local jurisdictions properly sign the temporary detour of a bikeway and that affected transit providers use their normal methods to inform system users of possible temporary stop relocation;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Identify streets where vehicles over a specified weight are prohibited, other than for direct, local access;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Identify travel time restrictions for cleanup traffic, including trucks, to avoid peak travel periods;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Provide flagmen to temporarily control pedestrian and vehicular traffic adjacent to properties during departure and arrival of trucks, and during periods of equipment movement;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Install protective devices and traffic controls (such as barricades, cones, lights, warning beacons, warning signs) along sidewalks at individual properties during cleanup or during any crossing into the public right of way;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Provide protective barriers on a property’s perimeter where excavation will extend to the sidewalk;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Provide signage directing pedestrians to alternate access in locations where cleanup</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Design Features</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td>Verification/Approval Party</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>---------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Initials</td>
</tr>
<tr>
<td>activities extend into the sidewalk;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Schedule truck deliveries so that deliveries are consolidated at individual properties to the extent feasible;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Leave equipment on-site overnight to the extent feasible;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Actively promote carpooling and transit use among workers;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Consolidate staging areas for equipment to the maximum extent feasible; and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Consolidate parking areas for workers and provide transportation to and from worksites (if beyond walking distance).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PDF TRANS-2:</strong> Coordinate routes and times with local jurisdictions to avoid use of routes affected by local streets or infrastructure maintenance or expansion projects.</td>
<td>Documented input from appropriate agencies obtained during coordination.</td>
<td>DTSC and appropriate agencies with roadway improvement or maintenance projects</td>
<td>Section 8.1</td>
<td>Contractor to conduct ongoing coordination with agencies during cleanup activities. Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td><strong>PDF TRANS-3:</strong> Coordinate with school authorities and operators of daycares to schedule cleanup of these properties, if necessary, during times when students/children are not present, such as scheduled breaks, and to inform them of planned cleanup of properties in the immediate vicinity of these uses when they are in session.</td>
<td>Written verification of schedule to cleanup school and daycare properties or within immediate vicinity of these sensitive uses.</td>
<td>DTSC</td>
<td>Section 8.1</td>
<td>Contractor to coordinate with authorities and daycare centers prior to cleanup activities of schools and daycares and properties within the immediate vicinity of these sensitive uses. Compliance summaries shall be forwarded to DTSC as part of the Contractors' periodic reporting requirements, which DTSC shall review within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Greenhouse Gas Emissions</td>
<td>Prepare and implement Greenhouse Gas Emissions Reduction Plan (GHG Plan) to track emissions and adopt identified measures to mitigate emissions as needed. The GHG Plan shall identify the measures that shall be taken, as needed, to mitigate emissions. Contractors shall prepare log completed by Contractors providing hours, miles, fuel usage, or other suitable surrogate parameters related to the cleanup for calculation of resultant GHG emissions. Contractors shall document the measures taken to mitigate GHG emissions.</td>
<td>DTSC</td>
<td>Section 5.1 Section 6.3.3</td>
<td>Contractor to prepare GHG Plan for DTSC’s review and approval prior to physical implementation of cleanup activities Contractor to develop and submit to DTSC for review monthly logs and quarterly report of actual GHG emissions and any measures taken to reduce emissions. DTSC shall review logs and reports within 1 week of receipt.</td>
<td></td>
</tr>
<tr>
<td>Mitigation Measure GHG-1: Before physical implementation of the Project begins, DTSC shall develop and implement a Greenhouse Gas Emissions Reduction Plan (GHG Plan) containing feasible strategies to reduce GHG emissions for the Project to a less-than-significant level. As part of the GHG Plan, DTSC shall require Contractors implementing the cleanup to track hours, miles, fuel usage, or other suitable surrogate parameters related to the cleanup and calculate and report the resultant GHG emissions every month. The plan shall require DTSC to implement, as needed, one or more of the following measures to assure that the project will not exceed, on an annual basis, the threshold 10,000 MT CO₂e:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Planting of new drought-tolerant and native trees of appropriate size and type for the property that would result in a net sequestration of CO₂ emissions (up to a maximum of two new trees per residential property with property owner permission and based on available funding).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Coordinating with the California Health and Human Services Agency and Department of Community Services and Development (CSD) and property owners to conduct a building energy efficiency audit in accordance with industry standard methods to identify non-structural retrofits to existing buildings to improve the energy performance. Based on the results of the energy efficiency audit, retrofits may include, but are not limited to, weatherization (e.g., upgraded building insulation, upgraded energy-efficient glazing, reduction of air leakage from window and door)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitigation Measures</td>
<td>Method of Verification</td>
<td>Enforcement Agency</td>
<td>Work Plan Section</td>
<td>Timing of Implementation/Monitoring Frequency</td>
<td>Verification/Approval Party</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
</tr>
</tbody>
</table>
| - Coordinating with property owners, for the installation of “cool roofs”, i.e. a roofing system that delivers higher solar reflectance and higher thermal emittance than standard roofing products, with the goal of meeting Title 24 (2016) cool roof performance standards.  
- Coordinating with property owners for the installation of rooftop solar photovoltaic panels or solar water heating in accordance with state and local permitting standards on existing buildings at properties under cleanup. This measure only applies to existing buildings that do not require structural load-bearing improvements to accommodate the solar panels or water heaters and related electrical wiring, inverters, conduits, service panels, metering equipment or other necessary equipment. Solar panels may only be installed on rooftops with areas that meet the solar zone requirements in Section 110.10 of the Title 24 (2016) mandatory requirements. This measure does not provide for on-going maintenance. Post-installation maintenance and costs shall be borne by the property owner.  
- Reviewing, at least once a year, commercial availability of alternatives to diesel powered on-road and off-road equipment. If commercially available in the region, Contractors shall be required to use equipment capable of performing the cleanup activities in a comparable manner (with respect to time, safety, etc.) which results in appreciable GHG reductions. | | | | | |
| seals), installation of smart thermostats, energy efficient lighting upgrades, water efficient faucet and showerhead upgrades, heating, ventilation, and air conditioning (HVAC) system maintenance, or other non-structural energy efficiency improvements in accordance with state and local permitting standards. This measure is not applicable to buildings constructed in 2005 or later, or buildings or buildings systems constructed prior to 2005 but that were designed or previously retrofitted to meet equivalent Title 24 (2005) or newer standards. Allowable retrofits may not exceed the energy performance standards specified in the Title 24 (2016) mandatory requirements. | | | | | |
Purchasing carbon credits from a reputable carbon market.

The plan shall devise mitigation with a priority on fiscal considerations in order to reserve Project funds, to the extent feasible, for actual cleanups. The plan may also include provisions to seek grant funding or other mechanisms to leverage other existing programs that address energy reduction or urban forestation.

### Noise and Vibration

**Mitigation Measure NOI-1:** Implement Temporary Noise Barriers: Implement the field-erected temporary noise barriers including but not limited to sound blankets on existing fences and walls or the use of freestanding portable sound walls, to block the line-of-site between construction equipment and noise-sensitive receptors during Project implementation. Noise barriers should be a minimum of 8-feet-tall and continuous between the source of noise and adjacent or nearby noise-sensitive receptors. Noise barriers are most effective when placed directly adjacent to either the noise source or receptor. Place sound barriers around stationary sources and near windows, where feasible.

Barrier construction may include, but not necessarily limited to, using appropriately thick wooden panel walls (at least ½ inch thick). Temporary Noise Wall Barrier Construction, which are tall enough to block the line-of-sight between the dominant construction noise source(s) and the noise-sensitive receptor. Such barriers can reduce construction noise by 5 to 15 dBA at nearby noise-sensitive receptor locations, depending on barrier height and length, and the distance between the barrier and the noise-producing equipment or activity. Alternately, field-erected noise curtain assemblies could be installed around specific equipment sites or zones of anticipated mobile or stationary activity. Curtain-Type Noise Barrier techniques are most effective and practical when the construction activity noise source is stationary (e.g., generator operation) and the specific source locations of noise emission are near the ground and can be placed as close to the equipment/activity-facing side of the

<table>
<thead>
<tr>
<th>Mitigation Measures</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Purchasing carbon credits from a reputable carbon market.</td>
<td>Property-specific Excavation, Disposal, and Restoration Design Plan shall indicate if a noise barrier will be used.</td>
<td>DTSC</td>
<td>Section 6.4 Section 6.4.1</td>
<td>Contractor to implement prior to commencement of cleanup activities on a property. Contractor to conduct routine inspections in field if noise barriers are being used. Compliance summaries shall be forwarded to DTSC as part of the Contractors’ periodic reporting requirements, which DTSC shall review within 1 week of receipt. In the event of activity noise levels exceeding local jurisdiction thresholds, the implementation of a temporary noise barrier. Noise levels will be checked on an hourly basis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Plan Section</th>
<th>Frequency</th>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The barrier material is assumed to be solid and dense enough to demonstrate acoustical transmission loss that is at least 10 dBA greater than the estimated noise reduction effect. These suggested barrier types do not represent the only ways to achieve the indicated noise reduction in dBA; they represent examples of how such noise attenuation might be attained by an implemented measure under the right conditions.

<table>
<thead>
<tr>
<th>Mitigation Measures</th>
<th>Method of Verification</th>
<th>Enforcement Agency</th>
<th>Work Plan Section</th>
<th>Timing of Implementation/Monitoring Frequency</th>
<th>Verification/Approval Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>noise barrier as possible. Barrier layout and other implementation details would vary by property due to unique conditions at each property.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initials</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>