

SOIL MANAGEMENT PLAN FOR  
OU-1 (MAIN SCHOOL CAMPUS) & OU-2A (BALLFIELD)  
AVALON K-12 SCHOOL PROPERTY  
200 FALLS CANYON ROAD  
AVALON, CALIFORNIA 90704

Prepared For:

**LONG BEACH UNIFIED SCHOOL DISTRICT**

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August 6, 2020

Project No. 12441.001

Long Beach Unified School District  
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Attention: Ms. Talitha Crain

**Subject: Soil Management Plan for OU-1 (Main School Campus) and OU-2A (Ballfield)  
Avalon K-12 School Property  
200 FALLS CANYON ROAD  
Avalon, California 90704**


Leighton Consulting, Inc. (Leighton) presents this Soil Management Plan (SMP) prepared for the Avalon School Property located in Avalon, California. This SMP was prepared to address soil excavation activities in various circumstances over the Avalon School Property ("Site").

If you have any questions regarding this document, please contact the undersigned.

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## 1.0 INTRODUCTION

Leighton Consulting, Inc. (Leighton Consulting) has prepared this Draft Soil Management Plan (SMP) for the K-12 school site in Avalon, California ("Site") (see **Figure 1, Appendix B**).

This SMP describes the approach to handling soils per Long Beach Unified School District (LBUSD) (District) and DTSC requirements for known Chemicals of Concern (COCs) that exist in soil at the Site. It is intended to guide soil disturbance activities in areas with impacts exceeding remediation goals, whether known or unknown, foreseen or unforeseen, including areas beneath existing structures. This SMP is not intended to guide the 2022 planned Phase 2 DTSC-approved Remedial Action Plan (RAP) delineated "hot spot" removals (GSI, 2019). Should unforeseen circumstances result in the incompleteness of Phase 2 delineated "hot spot" removals before the end of 2022, or if maintenance or repair activities require work in the Phase 2 delineated "hot spot" areas prior to completion of the 2022 removals, then this SMP will be used to guide soil excavation activities for the protection of contractors, employees, students and any others that may be exposed to site COCs resulting from work in these areas.

The site has been investigated and environmental response actions taken or implemented in the past under DTSC oversight (GSI, 2019). A planned removal action is scheduled to be implemented in 2022 (RAP Phase 2). There are known areas of impacted soil exceeding the Remediation Goals (RGs) beneath buildings. Additionally, there is the possibility that elevated levels of arsenic, lead, PAHs, or dioxins could exist in limited areas between previous assessment points, beneath buildings in areas not previously investigated, or at depths in excess of 5 feet at the site. This SMP is intended to provide procedures to protect the students, construction workers, parents, faculty and school staff, including facilities and maintenance and operations employees, and third parties, including utility or emergency workers. Furthermore, this SMP will allow site workers to be aware and recognize signs of potentially impacted soils, and allow these soils to be addressed properly when encountered. This SMP will be updated when RAP Phase 2 is completed and as necessary when future environmental response actions are completed.

Based on the Site history and prior assessment, elevated levels of Arsenic, Lead, PAHs, and Dioxins are known to exist in the subsurface, and are the identified COCs.

### 1.1 Objectives

The objectives of this SMP are to:

- Identify known areas of soils with COCs exceeding RGs.
- Provide procedures for identifying and assessing suspect soils when encountered, whether in unforeseen areas or areas otherwise not previously characterized.
- Provide procedures for the safe and effective excavation and disposal of soil which exceeds remediation goals (RGs), whether in areas previously known to exist, or in newly discovered areas. Eighteen delineated hot spot areas are scheduled for removal in 2022.

- Protect the students, construction workers, parents, faculty and school staff, including facilities and maintenance and operations employees, and third parties, including utility or emergency workers, that occupy the Site during future soil disturbance activities. Due to the known concentrations of certain COCs, and the potential risks associated with the work, it is recommended that any pre-planned removal actions be conducted when school is not in session.

## **1.2 SMP Amendments**

This SMP may be amended over time based on new information discovered during soil disturbance activities, to address LBUSD's operations, or for other reasons. Any revisions or amendments will be submitted to and approved by the DTSC prior to use.

## 2.0 BACKGROUND

### 2.1 Site Information

The Site is located at 200 Falls Canyon Road in the City of Avalon, on Catalina Island, California. The City of Avalon is situated offshore approximately 25 nautical miles south of Long Beach Harbor and the Los Angeles Basin metropolitan area (see **Figure 1, Appendix B**).

The Site has designated Operable Units (OUs). These OUs are defined below in **Section 2.2**.

#### 2.1.1 General Description

The school campus is approximately 11.6 acres in size, and is located at the mouth of Falls Canyon, where it terminates into Avalon Canyon. Falls Canyon has also historically been known as Baker Canyon and Power House Canyon. The property is narrow and terraced down-canyon toward the east.

The Site is developed with a kindergarten through 12th grade (K-12) school, and is separated into an elementary school, junior and senior high schools, with associated facilities (e.g., gymnasium, shop building, library, locker rooms, play grounds, ball field) and administrative offices. The southern margin of the campus abuts a steep, ascending natural hillside with a concrete-lined flood control channel at its toe, draining down Falls Canyon from west to east (see **Figure 2, Appendix B**).

#### 2.1.2 Geology

Mission (2008A) reports the Site is set within a deeply incised canyon, and is underlain by alluvium and artificial fill. Bedrock beneath the site is exposed along the southern site boundary, above the bordering concrete-lined flood control channel, and consists of Miocene-aged quartz diorite of the Santa Catalina Island Pluton. Its texture is porphyritic, and most exposures south of the site are weathered into a regolith zone extending down 1 to 3 feet below the ground surface. In this area south of the Site, slope wash sediments are typically brown to grayish-brown, silty to clayey, fine- to coarse-grained sand with hard, angular fragments or clasts of the weathered quartz diorite bedrock.

Non-marine terrace deposits of Quaternary age are exposed beneath the higher terrace platform immediately north of Site. These deposits are poorly sorted in texture, consisting of pale brown to reddish-brown, moderately consolidated pebble to boulder breccias, and silty to gravelly fine sand. These deposits are paleo debris flows which filled Falls Canyon when sea levels were higher and the island lower (Mission, 2008A).

The majority of the Site is underlain by fill material consisting of the re-worked alluvium created during grading. The alluvial deposits are derived from the Miocene quartz diorite basement rock, and reworked sediments from the Quaternary non-marine terrace deposits. Burn dump related debris has been observed in numerous trenches and borings drilled on the Site. This debris is further described below in **Sections 2.3 & 2.4**.

Fill, varying in thickness from 1.5 to 5 feet, is reported to have been encountered near the Library building, south and east of the Elementary School building, and in the eastern portion of the school campus. Relatively older fill has been reported beneath 5 feet, and in almost all borings throughout the Site. The relatively older fill is up to 20 feet thick in the Ball Field Area (i.e. western-most portion) of the Site (Mission, 2008A) (see **Figure 4, Appendix B**).

### 2.1.3 Hydrogeology

GSI (2019) reports groundwater has not been encountered beneath the Site during previous investigations. During the installation of debris netting at the Site, Mission Geoscience Inc. drilled to a maximum depth of 45 feet bgs and did not encounter groundwater. These observations are consistent with measured depths to groundwater of approximately 100 feet bgs in nearby Avalon Canyon wells. Groundwater was encountered in a nearby test boring (AV-BR-1), within Avalon Canyon, at approximately 100 feet bgs (Oberlander & Dickey, 2015). This is consistent with other production wells owned by Southern California Edison (SCE) within the canyon. The groundwater flow direction beneath the Site has not been established with empirical data; however, it is presumed to follow the topography and alluvial deposits constrained by the canyon, and flow towards the Southeast to East (i.e. out of Falls Canyon).

## 2.2 Site Operable Unit Designations

The Site and an adjoining warehouse property have been divided into the three exposure units based on the current land use and historical operations. The boundaries of the operable units are shown in **Figure 2** (in **Appendix B**) and are described below:

- **Operable Unit 1 (OU-1)** - The Avalon School Campus (Main School Campus) which consists of school buildings, playgrounds, and parking areas.
- Operable Unit 2 (OU-2) is comprised of two sub-units:
  - **Operable Unit 2A (OU-2A)** - The Ball Field; and
  - **Operable Unit 2B (OU-2B)** - The City of Avalon's Warehouse Property

For purposes of this SMP, the Site consists of only OU-1 (Main School Campus) and OU-2A (Ball Field). OU-2B (Warehouse Property) is not a part of the Site. This document was prepared to manage soils only in operable units OU-1 (Main School Campus) and OU-2A (Ball Field). It does not guide any activities in OU-2B (the City of Avalon's Warehouse Property Area).

## 2.3 Property History

Prior investigators have reported varying historical time lines for specific usages of the Site and nearby properties, especially between 1890 and 1924; however, the actual reported usages have been somewhat consistent. Provided below is a summary of suspected COCs sources, and approximate historical usages/dates.

### 2.3.1 School Construction Dates

Historical features on the Site and adjoining OU-2A are shown on **Figure 4** (in **Appendix B**), and discussed below. In 1924, the Santa Catalina Island Company (SCICO) constructed the present day high school building on OU-1 near the mouth of Falls Canyon (EEC, 2014A). In 1927, the present-day library (former industrial arts) building was constructed by SCICO on OU-1. The current western portion of the Site (i.e. Ball Field area) was not a part of the original school, and was occupied by a manufactured gas plant (MGP), large above-ground tanks (gas holders for nearby gas plant) and SCICO employee housing (EEC, 2014A). In 1960, the Ball Field area of the Site was acquired by the LBUSD from both SCICO and the City of Avalon, and it was developed as such (EEC, 2014A). In 1979, the District acquired from the SCICO the former pitch and putt and later developed portables buildings to house the District's elementary school children (EEC, 2014A).

### 2.3.2 Suspected Historical Sources of COCs

A Municipal Gas Plant (MGP) was constructed in 1920 near the western edge of OU-2A, and was operated until 1931. Just west of this MGP, an electric power plant operated from 1919 to 1947 (EEC, 2014A). Large above-ground gas holder tanks associated with the MPG operations were also present on the Ball Field area of Site between 1919 and 1947 (EEC, 2014A). Diesel fuel tanks, located north of the electric power plant, were removed from Falls Canyon in 1958 (Catalina Islander, October 31, 2008). The locations of the above-discussed features are indicated in **Figures 3 & 4** (in **Appendix B**).

Mission (2008A) reports that, prior to the school construction (in 1924), the Site was characterized by a series of topographic lows, erosional gullies and open pits (from mining of gravel deposits) in the bottom of the canyon. They report the southern side of the original creek alignment in Falls Canyon was used by Avalon residents as a municipal dump between the turn of the century and first construction of the school in 1924. Based on ages of materials found in exploratory trenches, it is reported the dumping may date back to the 1890s or earlier (Mission, 2008A). The reported presence of numerous ash layers, black odiferous material containing non-combustible dump debris, broken tableware, bits of iron, cans, brick, burned wood, oxidized metals, copper wire, porcelain, horseshoes and melted bottles indicates the dumped materials were burned (PCR 2013).

Mission (2008B) also reports the presence of likely MGP related wastes such as ash, coke, burnt red brick, and white refractory brick beneath the Ball Field area of the Site.

### 2.3.3 Incinerator

An incinerator is reported to have existed on the school property from approximately 1950 through 1970, near the southwest corner of the present-day Library building. It was located on a concrete pad, and was used for burning paper and general school-related trash. The ash was drummed and disposed of at the landfill above Pebbly Beach (EEC, 2014A).

It is noted that the incinerator was installed more than a decade after the school buildings had been constructed (i.e. school buildings built in 1924 to 1930, what is today the library, high school building and elementary school buildings).

Burned debris found in exploratory trenches in the vicinity of the incinerator were reported to contain brick, ceramic, burned wood, oxidized metals, copper wire, porcelain, glass, decomposed rock, pieces of metal and horseshoes (Mission 2008A). Additionally, PCR (2013) reports the presence of medicine, bourbon and beer bottles, dated between 1880 and 1919 in trench ET-7, which was excavated near the southwest corner of the library. The described debris pre-dates the existence of the school incinerator by many decades, and is neither the type of debris which would be put into a school incinerator (i.e. non-flammable materials), nor is it typical of what would be found in school-related wastes. In addition, Mission (2008A) reports the burned debris they detected in trenches in the vicinity of the incinerator was up to, and likely beneath, the footings of the original buildings which were constructed between 1924 and 1930, further indicating this burned and buried debris pre-dates the incinerator, as well as these building footings/buildings.

## 2.4 Previous Investigations

Numerous prior investigations have been completed at the Site. Provided below is a summary of pertinent background information for this SMP.

### 2.4.1 Prior Assessments (2001 to 2015)

Assessment has been completed on the Site by numerous investigators between 2001 and 2015. These investigations have included the collection of samples from soil borings and trenches, and their analyses for arsenic, lead, PAHs, cyanide, dioxins, benzene, toluene, ethylbenzene, and xylenes (BTEX). The purpose of these iterative investigations has generally been to further delineate the nature and extent of COCs, and to fill prior data gaps. A majority of the data have been collected between the surface and 5 feet bgs. DTSC background screening values, and Human Health screening levels for school use (residential levels), have been used to evaluate the investigation data and COCs. In OU-1 and OU-2A, the results generally indicated:

- Arsenic-impacts were limited in extent (2% to 6% of samples), widely dispersed, and exceeded screening levels;
- Lead-impacted soils in excess of screening levels exist at various scattered locations between 0 and 5 feet deep on the Main School Campus (OU-1) and the Ball Field

(OU-2A). It should be noted that lead concentrations in soil above 1,000 milligrams per kilogram (mg/kg) remain in several locations near and under school buildings.

- The highest concentrations of PAHs, specifically B(a)P-eqs, occurred in samples collected from shallow soils (0 to 10 feet bgs) in OU-2A near the former MGP and southwest corner of OU-2A. It should also be noted that elevated concentration of B(a)P-eqs have also been identified beneath the infield area of the Ball Field (OU-2A), including beneath the former location of the SCICO housing.
- Dioxins exceeding residential screening levels exist at numerous locations throughout OU-1 and OU-2A, including confirmation samples collected below prior removal areas.

Site inspection and exploratory trenches at the Site have revealed various types and amounts of buried and partially buried debris, including ash layers, black odiferous material containing non-combustible debris, broken tableware, bits of iron, cans, brick, burned wood, oxidized metals, copper wire, porcelain, horseshoes and melted bottles; and MGP wastes, including refractory brick, coke, lampblack, and coal tar (Mission, 2008A & PCR 2013). Samples of soil containing the materials described above were collected for analysis, and the laboratory analytical results were included in the prior assessments (GSI, 2019).

In 2014, a supplemental investigation report was prepared to summarize and evaluate site investigation data collected since 2001. This report confirmed the prior identification of Site COCs (arsenic, lead, PAHs, and dioxins) (EEC, 2014A). This report also summarized removal actions completed between the Ball Field (OU-2A) and adjoining warehouse area (OU-2B) (see below **Sections 2.5.1 & 2.5.4**).

#### 2.4.2 Human Health Risk Assessment (2017)

In January 2017, a Human Health Risk Assessment (HHRA) was completed by EEC. EEC concluded that arsenic, lead and PAHs (as B(a)P equivalent) were COCs for the site, and exist at concentrations with the potential to cause adverse health effects. The locations in which COCs exceeded acceptable health risk criteria were reported to be in widely dispersed locations (EEC, 2017).

#### 2.4.3 Geosyntec Tech Memo (2017)

A Technical Memorandum was completed by Geosyntec Consultants in May 2017 (Geosyntec Consultants, 2017), and presented to DTSC. This Technical Memorandum presented Remedial Action Objectives (RAOs) including:

- Mitigation of potential on-Site exposure through ingestion, inhalation, and direct contact with soil impacted by lead, arsenic, PAHs as B(a)P equivalents and dioxins to protect students and school staff to allow for continued use as a school.

- Mitigation of potential on-Site exposure through ingestion, inhalation, and direct contact with soil impacted by lead, arsenic, PAHs as B(a)P equivalents, and dioxins to protect maintenance, construction and emergency workers.

Site-specific Remediation Goals (RGs) were also developed and included in the Technical Memorandum. The RGs were subsequently approved by DTSC, and are discussed in more detail below in **Section 3.0**.

## 2.5 **Previous Removal Actions**

Removal actions have been undertaken in various areas of OU-1 (Main School Campus) and OU-2A (Ball Field) between 2005 and 2019. These removal actions were completed during four distinct events, all of which have either been granted a No Further Action (NFA) determination, or otherwise approved as adequate, by DTSC.

Three areas of the Site have been granted a No Further Action (NFA) determination from DTSC including: 1) the slope between the Ball Field (OU-2A) and Warehouse (OU-2B) (2009), 2) the courtyard area between the Boys and Girls Locker Room in OU-1 (2010), and 3) the southwestern portion of OU-2B at the western Ball Field slope (2014). Additionally, eighteen delineated hot spot were removed in OU-1 and OU-2A during the Phase 1 RAP work resulting in a DTSC approved removal action (in 2019). All NFA/DTSC approved areas are shown on **Figure 5** (in **Appendix B**).

The four distinct, above-mentioned removal actions, and associated DTSC determinations, are discussed below in more detail, and in historical order.

### 2.5.1 **Soil Removal in OU-2A at Slope Between Ball Field and OU-2B Warehouse (Jan/Feb 2009)**

This prior removal action included the excavation of coke material and PAH-impacted soils from the western slope of the Ball Field in OU-2A that became exposed by runoff from the City of Avalon's Warehouse property (**Figure 5, Appendix B**). During these activities, the District became aware of additional impacted soils and coke materials located south beyond the removal area, however, the impacted materials were not addressed at the time of these observations (Mission, 2009). DTSC responded to these actions with an approval letter that included an NFA for a limited area (DTSC, 2014). The additional observed, impacted soils near this area were subsequently addressed during an August 2014 removal action which is discussed below in **Section 2.5.4**.

### 2.5.2 **Soil Removal in Courtyard Area (July 2010)**

In July 2010, removal activities were conducted by Mission Geoscience in OU-1, and included removal of the upper 1.5 to 2.5 feet of primarily arsenic-impacted soil, and some lead-impacted soil, located beneath the courtyard area of the Boys and Girls Locker Room (**Figure 5, Appendix B**). Approximately 200 tons of impacted soil were removed. Soil samples collected, after the second of two excavation events, confirmed that arsenic and lead content in soil had been successfully reduced to the remedial goals of



12 milligrams per kilogram (mg/kg) for arsenic and 80 mg/kg used for lead (Mission, 2011). Mission requested that DTSC issue an NFA determination for this courtyard area. In a letter dated February 8, 2011, DTSC approved the RACR prepared by Mission, and granted NFA for this area (DTSC, 2011).

#### 2.5.3 Imminent & Substantial Endangerment Determination and Remedial Action Order (March 2012)

In March 2012, DTSC issued an Imminent and Substantial Endangerment Determination and Remedial Action Order to SCICO, LBUSD and the City of Avalon. This Order directed implementation of any appropriate removal actions, completion of an RI/FS, preparation of a RAP or RAW, preparation of CEQA documents, and the Design and Implementation of the remedial actions approved in the RAP or RAW. In this Order DTSC also ordered further investigation of the nature and extent of hazardous substance contamination at the Site (DTSC, 2012).

#### 2.5.4 Soil Removal in Southwestern Slope of Western Ball Field (August, 2014)

In August 2014, Leighton completed a Time Critical Removal Action (TCRA) at the site with approval by DTSC. The Removal Action was completed on the southwest slope of the western Ball Field area (OU-2A) (**Figure 5, Appendix B**). A total of 210 tons of PAH-impacted soil were removed via excavation, and transported off-Site for disposal. During this Removal Action DTSC encouraged the contractor to remove newly discovered contaminated soil to the south, to the extent feasible near the drainage channel. Following completion of this removal action, Leighton issued a TCRA Completion Report which recommended No Further Action in this area (Leighton, 2015). DTSC responded with a concurring No Further Action letter (DTSC, 2015).

#### 2.5.5 Soil Removal in OU-1 (August 2019)

A draft Remedial Action Plan (RAP) was prepared by GSI in 2019 (GSI, 2019). The remedial alternative selected for OU-1 and OU-2A was “Soil Excavation to a Maximum Depth of 5 Feet Depth in Paved and Unpaved Contaminated Areas”. This alternative was divided into two phases; Phase 1 and 2. The RAP was approved by DTSC via their letter dated August 16, 2019 (DTSC, 2019).

Between August 7, 2019 and August 23, 2019, GSI completed the Phase 1 removals of eighteen previously defined hot spot areas in unpaved and immediately adjacent paved areas (**Figure 5, Appendix B**). The removals consisted of the excavation and off-site disposal of 543 tons of contaminated soil (329 non-hazardous & 214 tons of hazardous, non-RCRA). Further details of Phase 1 removal actions are provided in a RACR prepared by GSI (GSI, 2020). DTSC reviewed and approved this RACR (DTSC, 2020).

Phase 2 removals are planned to start in year 2022, and include the removal of soil in an additional eighteen paved areas. Additionally, in 2022 the District plans to commence a future modernization and ball field upgrade.

### 3.0 SITE-SPECIFIC REMEDIATION GOALS (RGS)

This SMP will guide soil excavation activities throughout OU-1 and OU-2A. It is not intended to guide the 2022 planned Phase 2 DTSC-approved RAP delineated “hot spot” removals (GSI, 2019). Should unforeseen circumstances result in the incompleteness of Phase 2 delineated “hot spot” removals before the end of 2022, or if maintenance or repair activities require work in the Phase 2 delineated “hot spot” areas prior to completion of the 2022 removals, then this SMP will be used to guide soil excavation activities and the protection of contractors, employees, students and any others that may be exposed to site COCs resulting from work in these delineated areas.

Site-Specific RGs for the various operable units were established for the known soil impacts via the 2017 HHRA (EEC, 2017) and subsequent Geosyntec Technical Memo (Geosyntec Consultants, 2017). These goals have been based on a relatively large, site-specific data set, and were included in the recent DTSC approved RAP (GSI, 2019). Given these factors, the same RGs are considered appropriate for use by this SMP, assuming the same COCs are involved. The DTSC approved RGs are as follows:

Chemical	HHRA Screening Levels - Final Soil 95%UCL Target Concn. (mg/kg) (Geosyntec, 2017)	Student Remedial Goal in Soil (mg/kg)	Worker Remedial Goal in Soil (mg/kg)	Basis
<b>OU-1 (MAIN SCHOOL CAMPUS)</b>				
Arsenic	12	20	20	Approx. 2 x DTSC default background screening level
Lead	<u>0 to 2 feet bgs</u> 91 <u>&gt;2 to 5 feet bgs</u> 320	200	640	Approx. 2 x site-specific screening level for students and DTSC default screening level for workers
Dioxin (TCDD-equivalents)	<u>0 to 2 feet bgs</u> $5 \times 10^{-5}$ (50 ppt) <u>&gt;2 to 5 feet bgs</u> $2.2 \times 10^{-4}$ (220 ppt)	$1 \times 10^{-4}$ (100 ppt)	$4.4 \times 10^{-4}$ (440 ppt)	2 x DTSC screening level
<b>OU-2A (BALL FIELD)</b>				
Arsenic	12	20	20	Approx. 2 x DTSC default background screening level
Benzo(a)pyrene equivalents (BaP-eq)	0.9	2	2	Approx. 2 x DTSC default background screening level

The above RGs represent the concentrations that individual samples must meet to achieve the 95UCL equal to or lower than the HHRA screening levels, assuming certain data points are mitigated consistent with the technical memorandum (Geosyntec Consultants, 2017).

## 4.0 RESPONSIBILITIES AND TRAINING

Phase 2 soil removal activities completed under the DTSC-approved RAP (GSI, 2019) will use that RAP as guidance. Soil excavation activities completed in OU-1 and OU-2A, using this SMP as guidance, must apply the responsibilities and training discussed below.

### 4.1 General Requirements

The LBUSD Facilities Environmental Manager (FEM), Maintenance Environmental Health and Safety Manager (MEHSM), or their designee(s), shall be responsible for implementation of the SMP. All staff at the Site (contractors, consultants, LBUSD staff, subcontractors, other project staff) will be required to comply with the requirements in this SMP. In particular, persons performing construction or maintenance and operations at the site shall be trained regarding this SMP's requirements.

Eighteen delineated hot spot areas are scheduled for removal in 2022. The site has been investigated and environmental response actions taken or implemented in the past under DTSC oversight (GSI, 2019). There are known areas of impacted soil exceeding the Remediation Goals (RGs) beneath buildings. Additionally, there is the possibility that elevated levels of arsenic, lead, PAHs, or dioxins could exist in limited areas between previous assessment points, beneath buildings in areas not previously investigated, or at depths in excess of 5 feet at the site. Therefore, there is the potential for routine maintenance operations to encounter potentially impacted shallow soils. Hazard communication training will be necessary to alert occupants and visitors of the school campus to the possibility of encountering these soils.

Environmental service providers and contractors that are assessing or remediating suspect or known contaminated soils should have appropriate qualifications, licenses, and registrations including, which may include, but not be limited to: California Professional Engineering or Geologist registrations (for testing and reporting), California Contractors License with Hazardous Substance Removal Certification (for the excavation and handling of hazardous waste), Hazardous Waste Operations and Emergency Response Operations (HAZWOPER) training (for testing or handling), and California Department of Transportation (DOT) registration (for transport of hazardous waste). Testing staff may be working under the direct supervision of a Professional Engineer or Geologist.

Field personnel involved with current or future removal actions at the Site must have completed certain levels of training requirements (described below in **Section 4.2**) in accordance with the California Occupational Safety and Health Administration (Cal-OSHA) regulations, including but not limited to HAZWOPER (8 CCR 5192), Hazardous Communication (8 CCR 5194), Inorganic Arsenic (8 CCR 5214) and Lead (8 CCR 1532.1). These requirements apply to all field personnel associated with planned removal actions, but typically include environmental consulting personnel, regulatory agency personnel, remediation contractor personnel, and any subcontractors and/or sub-consultants associated with such parties. This training is also to be updated continuously for project-specific issues, at daily tailgate safety meetings during field activities, and as additional safety concerns arise.

## **LBUSD Maintenance & Operations Staff, LBUSD Hired Qualified Contractors**

LBUSD personnel and LBUSD hired qualified contractors likely to have contact with subsurface soil at the Site are also required to have health and safety training. The training requirements are tiered, based on the likely exposure to soils and the types of completed tasks, and include either:

- 40 Hour HAZWOPER training with additional 8 Hour Supervisors Training;
- 40 Hour HAZWOPER training;
- 24 Hour HAZWOPER training;
- 8 Hour Annual HAZWOPER Refresher Training; and
- Hazard Communication training.

A more detailed description of the worker classifications, and examples of tasks that may be used as general guidance for the required tiers of training, is provided below in **Section 4.2**.

### **4.2 Health and Safety Training**

**LBUSD STAFF SHOULD BE AWARE OF HEALTH AND SAFETY REQUIREMENTS, DESCRIBED BELOW FOR ANY ACTIVITIES AT THE SITE INVOLVING SOIL DISTURBANCES (SEE BELOW AND SUMMARY IN APPENDIX C).**

All persons working on planned activities that involve Substantial Disturbance of the Site soil are required to have health and safety training as described below. Substantial Disturbance is not intended to include incidental surficial soil disturbances (such as during sporting activities, or raking leaves), but is intended to include activities involving excavation of soil more than a few inches (i.e. > three inches) below the surface (such as sprinkler repair, landscape planting, underground utility installation/repair, major construction activities, etc.).

There are four levels of training (40 Hour HAZWOPER with additional 8 Hour Supervisors training, 40 Hour HAZWOPER, 24 Hour HAZWOPER and Hazard Communication) based on the likely exposure to soils and the types of completed tasks.

Table 4.2.1 addresses training requirements when disturbing soil in areas with known impacts exceeding RGs (i.e. known Hot Spots). Table 4.2.2 subsequently addresses training requirements when disturbing areas with unknown impact or no known impacts exceeding RGs.

TABLE 4.2.1					
SOIL DISTURBANCE IN KNOWN AREAS EXCEEDING RGs (HOT SPOTS)					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
1	General site <b>workers</b> (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards.	X			
EXAMPLE	<ul style="list-style-type: none"><li>Planned soil excavation of hot spots (as identified in the RAP) which have not previously been removed.</li><li>Planned removal of impacted soil in delineated hot spot areas (exceeding RGs) that is unexpectedly encountered in the future during a repair.</li></ul>				
2	<b>Workers</b> on site only occasionally for a specific limited task (such as, but not limited to, monitoring, or surveying) and who may be exposed over Permissible Exposure Limits (PELs) and published exposure levels.		X		
EXAMPLE	<ul style="list-style-type: none"><li>Other professionals, consultants, qualified contractors or District personnel from the maintenance or facilities division that may need to be in the area(s) of hot spot activities to perform their work but will not be performing work that involves direct personal contact with the hazardous substances.</li></ul>				
3	<b>Management and Supervisors:</b> On-site management and supervisors directly responsible for, or who supervise employees engaged in, HAZWOPER Operations.	X  (With 3 days supervised field experience)			X*
*	<ul style="list-style-type: none"><li>Management training at the time of job assignment to include, but not limited to, such topics as the employer's safety and health program and the associated employee training program, Personal Protective Equipment (PPE) program, spill containment program, and health hazard monitoring procedure and techniques.</li></ul>				
4	Those skilled support personnel, such as employees who work for public works departments or the District or equipment operators who operate bulldozers, sand trucks, backhoes, or who use a shovel, etc., who may be called to the incident scene to provide temporary emergency support assistance.	X			
EXAMPLE	<ul style="list-style-type: none"><li>Emergency workers that might disturb the soil (e.g. firefighters clearing brush, utility company doing emergency line repairs, etc.).</li><li>Various specifically trained district maintenance or repair workers that will be operating equipment used to perform the digging up subsurface lines for repair/maintenance.</li></ul>				
References - 8 CCR 5192 HAZWOPER Standard; 8 CCR 5194 Hazard Communication Standard (including COCs onsite – 8 CCR 5214 Inorganic Arsenic, 8 CCR 1532.1 Lead, Dioxins, PAHS)					

<b>TABLE 4.2.2</b> <b>SOIL DISTURBANCE IN AREAS WITH</b> <b>UNKNOWN IMPACTS or NO KNOWN IMPACTS EXCEEDING RGs</b>					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
1	General site <b>workers</b> (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards.	X  <b>Should such work be planned</b>			
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>Removal of impacted soil (exceeding RGs) that is unexpectedly encountered in the future.</li> </ul>				
2	<b>Workers</b> on site only occasionally for a specific limited task (such as, but not limited to, monitoring, or surveying) and who may be exposed over PELs and published exposure levels.		X  <b>Should such work be planned</b>		
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>Other professionals, consultants, qualified contractors or District workers that may need to be in the area(s) of planned soil removal to perform their work, but will not be performing work that involves direct personal contact with the hazardous substances.</li> <li>Note: In the event RGs are exceeded in these work areas, personnel will be required to have an additional 16 hours of HAZWOPER training to continue to work in these areas.</li> </ul>				
3	<b>Workers</b> regularly on site who work in areas that have NOT been fully assessed or remediated (probably due to access limitations) but have likely exposure.		X		
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>Workers and construction managers during future building renovations or construction in areas with high potential for contact with hazardous substance impacted soils.</li> </ul> <p><b>NOTE: The number of workers that may need this level of training to be limited to a specific group of workers allowed to perform the specific soil impact work associated with other possible specialty trade work and include some district maintenance or repair workers having to dig up subsurface lines for repair/maintenance. These workers should be monitored to document any potential exposures or negative exposures and should be provided with hand and face washing facilities.</b></p> <p>Note: In the event RGs are exceeded in these work areas, personnel will be required to have an additional 16 hours of HAZWOPER training to continue to work in these areas.</p>				
4	<b>Workers/Visitors</b> on site only occasionally for a specific limited task (such as specific trade personnel) or will be visiting in areas that have been monitored and/or characterized as areas with possible contaminants of concern.			X	
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>District Env. Management staff or their counsel observing various activities at the site but not entering controlled work area(s).</li> <li>Specially trained trades personnel on site for specific tasks within controlled work areas.</li> </ul>				

TABLE 4.2.2					
SOIL DISTURBANCE IN AREAS WITH					
UNKNOWN IMPACTS or NO KNOWN IMPACTS EXCEEDING RGs					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
	NOTE: Such personnel will require either a 24 hour HAZWOPER trained employee to perform soil related work prior to their assigned task or will require a knowledgeable escort with the visitor during the site visit.				
5	Management and Supervisors: On-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations – <u>SHOULD SUCH WORK BE PLANNED.</u>	X  (With 3 days supervised field experience)			X*
*	<ul style="list-style-type: none"><li>Management training at the time of job assignment to include, but not limited to, such topics as the employer's safety and health program and the associated employee training program, PPE program, spill containment program, and health hazard monitoring procedure and techniques.</li></ul>				
6	Those skilled support personnel, such as employees who work for public works departments or the District or equipment operators who operate bulldozers, sand trucks, backhoes, or who use a shovel, etc., who may be called to the incident scene to provide temporary emergency support assistance.			X	
EXAMPLE	<ul style="list-style-type: none"><li>Emergency workers that might disturb the soil (firefighters clearing brush, utility company doing emergency line repairs, etc.).</li><li>Various specifically trained district maintenance or repair workers that will be operating equipment used to perform the digging up subsurface lines for repair/maintenance</li></ul> <p>NOTE: During the Haz. Com. Training it should be recommended that these workers be monitored to document negative exposure and be provided with hand and face washing facilities. As a precaution to first responders/emergency personnel from regulating agencies, the SMP should be included in the Business Plan that is submitted to the CUPA as part of the California Environmental Reporting System.</p> <p>Note: In the event RGs are exceeded in these work areas, personnel will be required to have 40 Hours of HAZWOPER training to continue to work in these areas.</p>				
References - 8 CCR 5192 HAZWOPER Standard; 8 CCR 5194 Hazard Communication Standard (including COCs onsite – 8 CCR 5214 Inorganic Arsenic, 8 CCR 1532.1 Lead, Dioxins, PAHS)					

<sup>1</sup> Elements of Hazard Communication - Employers (including host/controlling employers) are to provide information to employees about the hazardous chemicals to which they may be exposed. Applicable training can be provided by others besides the specific employer, but the current employer and the site controlling employer can still be cited if an employee working on the site is not adequately trained.

Hazard Communication Training shall include information that covers the requirements as outlined in the regulations for Hazard Communication (8 CCR 5194), and Lead (8 CCR 1532.1). Arsenic has not been included, as preliminary calculations have indicated no likely exposure exceeding the Arsenic action level. Major elements of the Hazard Communication shall include:

- Information on the operations in their work areas where hazardous chemicals are present and any operations that could result in exposure to a hazardous chemical contaminants of concern (COCs) that may be above an action level.
- Identification of the location and availability of their employer's hazard communication program as well as any site-specific compliance plans and site related Safety Data Sheets appropriate to the COCs.
- Information on methods, procedures, or controls (e.g. any engineering or work-practice controls) that have been used or may be in place to reduce or eliminate exposure to COCs (e.g. Dust Control measures).
- If appropriate, information related to possible Personal Protective Equipment (PPE) that may be necessary or used.
- Methods or observations that have been or may/will be used to detect and protect employees from exposure to hazardous chemicals in the work area (e.g. employee air monitoring, direct reading area monitors, hand / face washing procedures).
- The employee's right to access records in accordance with 8 CCR Section 3204 (e.g. monitoring records) should be provided to the Director and Maintenance Environmental Health and Safety Manager, or their designee(s).

Included in **Appendix C** are Health and Safety Tables intend to supplement these above table, and provide more practical guidance to the District on Health and Safety issues.



## 5.0 GENERAL PROCEDURES FOR SOIL DISTURBANCE ACTIVITIES

This SMP describes the approach to removal of soils with COCs exceeding the RGs. It is intended to guide removals of these types of soils when detected in unforeseen areas, as well as from areas already known to exceed RGs (Phase 2 “hot spots”) if their removal has not already been completed. Should unforeseen circumstances result in the incompleteness of Phase 2 “hot spot” removals before the end of 2022, or if maintenance or repair work intersects with these Phase 2 “hot spots” prior to their 2022 removals, this SMP will be used to guide the soil excavation activities. Attached **Figures 6-8** (in **Appendix B**) show current remaining Phase 2 “hot spots” (as of the date of this document). Attached **Figure 12** (in **Appendix B**) also shows the Phase 2 “hot spots” relative to planned 2022 Modernization excavation areas.

Additional soils exceeding RGs are known to exist beneath the auditorium, elementary school, gymnasium, high school building, library and shop buildings. Attached **Figure 11** shows soil sample data points (beneath buildings) with RG exceedances. This SMP also guides the removal of soil from beneath a prior removal area, if construction, maintenance or repair work requires excavation deeper than a prior removal area, and the soil exceeds RGs.

**LBUSD FACILITIES ENVIRONMENTAL MANAGER, MAINTENANCE AND OPERATIONS ENVIRONMENTAL HEALTH AND SAFETY MANAGER OR THEIR DESIGNEE(S), AVALON SCHOOL CAMPUS PLANT SUPERVISOR AND THE PRINCIPAL OF THE AVALON SCHOOL CAMPUS SHOULD BE AWARE OF THE NOTIFICATION REQUIREMENTS DESCRIBED BELOW, SHOULD ANY ACTIVITIES BE COMPLETED AT THE SITE THAT INVOLVE SUBSTANTIAL SOIL DISTURBANCES. SUBSTANTIAL DISTURBANCE IS NOT INTENDED TO INCLUDE INCIDENTAL SURFICIAL SOIL DISTURBANCES (SUCH AS DURING SPORTING ACTIVITIES, OR RAKING LEAVES), BUT IS INTENDED TO INCLUDE ACTIVITIES INVOLVING EXCAVATION OF SOIL MORE THAN A FEW INCHES (I.E. > THREE INCHES) BELOW THE SURFACE (SUCH AS SPRINKLER REPAIR, LANDSCAPE PLANTING, UNDERGROUND UTILITY INSTALLATION/REPAIR, MAJOR CONSTRUCTION ACTIVITIES, ETC.).**

**A SUMMARIZED DECISION TREE IS PROVIDED IN APPENDIX D REGARDING SOIL EXCAVATION ACTIVITIES AT THE SITE. THIS SUMMARY DECISION TREE IS NOT A COMPREHENSIVE SMP, SHOULD NOT BE RELIED UPON AS SUCH, AND SHOULD BE USED IN CONJUNCTION WITH THE REMAINDER OF SMP WHICH CONTAINS ADDITIONAL DETAILS AND EXPLANATIONS.**

### 5.1 7-Day Notification of Substantial Soil Disturbance Activities

At least seven days in advance of any planned Substantial Soil Disturbance (i.e. soil excavation greater than a few inches (i.e. > three inches) into soil) in OU-1 or OU-2A (Main School Campus or Ball Field), the LBUSD Facilities Environmental Manager (FEM), Maintenance Environmental Health and Safety Manager (MEHSM), or their designee(s), should be notified. This may not be practical in some emergency situations. Specific information should be provided to them so that they may advise on whether or not the proposed soil disturbance intersects with a Phase 2 “hot spot” (**Figures 6-9, Appendix B**), and whether or not any potential intersecting Phase 2 “hot spot” has already been removed. If work is being completed beneath a building, a check should also be done against soil exceeding RGs, as shown on **Figure 11**.

## 5.2 Minimal Soil Disturbance (< 10 cubic feet)

If planned soil excavation activities involve disturbing less than 10 cubic feet of soil, it should be determined if the planned work intersects with a Phase 2 “hot spot” area (see **Figures 6-8, Appendix B**), and whether or not any potential intersecting Phase 2 “hot spot” has already been removed. If the soil excavation activity does not intersect a Phase 2 “hot spot”, or the intersecting Phase 2 area has already been removed, work should proceed carefully, while following suspect soil assessment and handling procedures described in **Section 5.5**.

If the soil excavation activity intersects with a Phase 2 “hot spot” and the intersecting Phase 2 “hot spot” has not already been removed, the FEM or MEHSM should be notified per **Section 5.1**. Notify all persons working in the field to minimize contact with soil, wear protective clothing (long pants, long sleeves, gloves), minimize dust by wetting soils, stockpile all removed soil on top of plastic sheeting and cover with the same and anchor against wind. The working /soil stockpile areas must be secured to prevent access to all persons except those completing the subject work. Coordinate with FEM to dispose of impacted soils off-site as soon as practicable. The District representative that supervises the subject activities, or their designee, shall document the soil disturbance area(s), stockpiling, and disposition of disturbed soil via notes and photographs and provide the notes and photographs to the FEM or MEHSM or their designee.

A summary of actions related to minimal soil disturbance scenarios is provided in the Summary Decision Tree in **Appendix D**.

## 5.3 Soil Disturbances – Areas with Known or Suspected Impacts Exceeding RGs

For soil disturbances greater than 10 cubic feet, in known or suspected impacted areas, this section describes various actions based on the urgency of the work involving soil excavation. Areas with known or suspected impacts exceeding RGs may include:

- Areas shown on **Figures 6-8** (in **Appendix B**), which are known as Phase 2 “hot spots”. These are to be removed during planned school modernization activities scheduled to start in 2022, and are likely to remain in-place until that time (GSI, 2019).
- Soils in selected areas that are greater than 5 feet deep below ground surface (bgs), and below the maximum depth of a previous removal action, could exceed RGs (see **Figures 9 & 10, Appendix B**).
- Soils in selected areas that are immediately adjoining or beneath certain buildings may exceed RGs (see **Figure 11, Appendix B**).

Prior to planned soil disturbance activities in areas known to exceed RGs, or in areas in close proximity to these soils, a licensed surveyor should visually delineate their areal extent. As indicated above, known areas or locations currently exceeding RGs are shown on attached **Figures 6-8** (in **Appendix B**). **Figure 11** (in **Appendix B**) shows locations of concern beneath buildings. If substantial soil excavation activities (i.e. >three inches) intersect known soils exceeding RGs, and these soils have not already been removed, the following guidelines will be implemented based on the urgency of the soil excavation work:

- Extreme Emergency (work must start in less than 24 hours) - If an extreme emergency situation, contact FEM, MEHSM, an/or their designee(s); have appropriate District staff supervise the field activities (if done by subcontractor); and notify all persons working in field to minimize contact with soil, wear protective clothing (long pants, long sleeves, gloves), minimize dust by wetting soils, stockpile all removed soil on top of plastic sheeting and cover with the same and anchor against wind, and cease soil disturbance activities as soon it is no longer an emergency. The working /soil stockpile areas must be secured to prevent access to all persons except those completing the subject work via temporary fencing. The District representative who supervises the subject activities, or their designee, shall document the soil disturbance area(s), stockpiling and disposition of all disturbed soil via notes and photographs. The District's FEM or MEHSM shall furnish a report to DTSC setting forth the events which occurred and the measures taken in the response thereto.
- Urgent (work must start in two weeks or less) - If urgent work, contact the FEM, MEHSM, and/or their designee(s); and coordinate to have work proceed while being supervised by Districts environmental consultant (when working in the areas of concern). The working /soil stockpile areas must be secured via temporary fencing to prevent access to all persons except those completing the subject work. The Districts Environmental consultant who supervises the subject activities, or their designee, shall document the soil disturbance area(s), stockpiling, and disposition of disturbed soil via notes and photographs. Coordinate with FEM to dispose of impacted soils off-site as soon as practicable. The District's FEM, MEHSM or District's Environmental Consultant shall furnish a report to DTSC setting forth the events which occurred and the measures taken in the response thereto.
- Non-Urgent (work can start more than 2 weeks away) – If non-urgent work, contact the FEM, MEHSM and/or their designee(s); and coordinate to have soil removals completed in the planned work area in advance by the Districts remediation contractor, and under supervision by districts environmental consultant. Additional soil disturbance work in close proximity to these pre-remediated areas should also be completed under supervision of districts environmental consultant. The working /soil stockpile areas must be secured to prevent access to all persons except those completing the subject work. The district representative who supervises the subject activities, or their designee, shall document the soil disturbance area(s), stockpiling, and disposition of disturbed soil via notes and photographs, and provide to the FEM, M&O ESHM or their designee. Coordinate with FEM to dispose of impacted soils off-site as soon as practicable. The District's FEM, MEHSM or District's environmental consultant shall furnish a report to DTSC setting forth the events which occurred and the measures taken in the response thereto.

A summary of actions related to soil disturbance scenarios is provided in the Summary Decision Tree in **Appendix D**.

If soil excavation activities intersect a known Phase 2 “hot spot”, and the Phase 2 “hot spot” has previously been removed, then work should proceed carefully, while following suspect soil assessment and handling procedures in **Section 5.5**.



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#### **5.4 Soils Disturbance - Areas With Unknown Impacts or No Known Impacts Exceeding RGS**

For soil disturbances greater than 10 cubic feet, in areas with unknown impacts, or no known impacts exceeding RGS, this section describes various actions.

When working these areas, district maintenance and operations staff should be careful to make observations of exposed soils when disturbed. If non-HAZWOPER trained district subcontractors are used, the district FEM or MEHSM, and/or their designee(s) should be present with them during field activities. If the soil disturbance activities encounter soils that are discolored, odiferous, or contain visibly abundant debris, ash, lampblack, charcoal, glass, ceramic, brick, metal or burnt materials (i.e. suspect soils), the soil disturbance activities (in these areas) should cease and FEM, M&O ESHSM or their designee(s) should make a determination of how to proceed. In general, suspect soils should generally be assessed and handled as described below in **Section 5.5**.

#### **5.5 Suspect Soil Assessment and Handling**

Soils that are discolored, odiferous, or contain visible debris, ash, lampblack, charcoal, glass, ceramic, brick, metal or burnt materials are considered suspect soils. If evidence of suspect soils is encountered, please document via notes and photographs and provide to FEM, MEHSM and/or their designee(s). Suspect soils encountered during maintenance activities should be assessed and managed under the direction of the district FEM, MEHSM and/or their designee(s). Suspect soil encountered during new construction activities should be managed under the district FEM, MEHSM or the Director of Facilities Development and Planning Branch.

Suspect soils should be characterized by chemical analytical testing for both known site COCs, as well as other potential COCs, and possibly assessed for potential archaeological materials. At a minimum, suspect soil should be sampled and analyzed for Total Petroleum Hydrocarbons (TPH C4-C36), Volatile Organic Compounds (VOCs), Polynuclear Aromatic Hydrocarbons (PAHs), Title 22 metals, follow-up STLC metals (as needed), and Dioxin/Furans. All analytical data must be from a laboratory with ELAP certifications for the analyses conducted.

Any soil already disturbed and/or excavated should be covered with plastic sheeting, and the area secured against access by Site occupants.

In the event that soil exceeding the Remediation Goals is discovered, DTSC shall be notified by the FEM or M&O EHS Manager or their designee (if a maintenance related activity), or Director of Facilities Development and Planning Branch (if a new construction related activity).

#### **5.6 Cover / Cap Damage Response**

Area containing soils less than five feet deep that exceed remediation goals should be covered/ capped. This may include existing RAP Phase 2 soils scheduled for removal action implantation in 2022 identified in the DTSC approved RAP ("hot spots") (GSI, 2019), or newly identified soils exceeding remediation goals that have yet to be addressed per DTSC requirements.

In the event that a routine inspection reveals significant damage to a cover/capping (i.e. asphalt, concrete, etc.) that creates direct exposure to the underlying soils, or this situation is noticed following any disturbing event, such as excessive erosion or an earthquake, the area should be barricaded to prevent access by any school occupants, and the FEM, MEHSM or their designee(s) immediately notified with specific information regarding the location.

If the damaged cap is located in an area where soil is known to exceed RGs, DTSC shall be notified, and the cap immediately restored (either temporarily and then permanently, or permanently) to the extent practicable. Temporary cap restoration can consist of anchored plastic sheeting (i.e. visqueen). Permanent cap restoration is replacement of like materials previously used for capping. If this damaged cap is located in an area not previously known to contain underlying soils exceeding RG, the damaged cap should be restored as soon as practical. All cap restorations should be completed under the supervision of district staff familiar with the provisions of this SMP.

## 6.0 FIELD PREPARATIONS – IMPACTED SOIL REMOVAL ACTIONS

This section describes the planned approach to removal of soils with known COCs exceeding the RGs in accordance with LBUSD (District) and DTSC requirements. It is not intended to guide the minimal soil disturbance scenario described in **Section 5.2**.

### 6.1 Approvals, Notifications and Permitting

Provided below is a list of various approvals, notifications, permits, and known issues requiring compliance in association with soil removal activities guided by this SMP.

#### 6.1.1 DTSC Approval

DTSC should be notified as soon as practicable when impacted soils exceeding RGs are discovered in areas not previously known; however, approval of this SMP by DTSC will otherwise be considered approval to proceed with these soil removal activities, as necessary.

#### 6.1.2 DTSC Required Public Participation

In regards to removal actions associated with Phase 2 soil remediation described in the DTSC-approved RAP (GSI, 2019), DTSC requirements for Public Participation have already been met. In regards to other future potential soil removals, the District will consult with DTSC on other possible public participation requirements, when appropriate for the circumstances.

#### 6.1.3 SCAQMD Rules

SCAQMD Rules 403 and 1466 sets forth requirements to reduce the amount of particulate matter entrained in the ambient air at sites with toxic air contaminants, as a result of anthropogenic fugitive dust sources. Any Remediation Contractor implementing soil removal under this SMP is responsible for complying with all requirements of SCAQMD Rule 403, and if the soil movement exceeds 50 cubic yards, Rule 1466 as well.

At a minimum, the following measures should be taken:

- Notification to SCAQMD of planned earth-moving activities in compliance with Rule 1466;
- Preparation of appropriate signage for public notification, as required by Rule 1466 (4 signs minimum) to post along site boundary fencing;
- Application of water to control dust generation at the working faces, and other points of dust/odor generation;
- Stockpile control measures – covering, wetting;

- Truck loading and covering procedures; and
- Housekeeping (street cleaning as necessary);
- Implementation of protocols for ceasing earth moving activities if: 1) the wind speed is greater than 15 miles per hour (mph) over a 15-minute period, or instantaneous wind speeds exceed 25 mph, and/or 2) calculated PM10 concentration exceed 25 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). Earth-moving activities can be resumed when wind speed drops to below the action levels and particulate concentrations drop below  $25 \mu\text{g}/\text{m}^3$  (additional dust suppression applied). Any of the above mentioned exceedance and work stop events should be noted in the dust monitoring log;

Best practices, and the need for compliance with Rule 403 and 1466, should also include the use of rumble strips consisting of metal plates with raised rails. These are utilized to remove bulk material from tires and vehicle undercarriages, if necessary. The rumble strips would be placed at the egress point where the Working Areas meet the closest roadway. In working areas with known hazardous soils, if equipment is likely to track over these soils, a procedure to wash the tires or tracks should be implemented. Any washwater generated by this procedure should be containerized and characterized for proper disposal.

#### 6.1.4 Other Permits

As necessary and appropriate, the following additional permits should be obtained in connection with soil removal activities.

- A grading permit from the City of Avalon, as needed.
- A permit for use of public water systems, as needed.
- Other permits required by the City of Avalon.
- Any other permitting requirements that are identified, or may arise, following the date of this SMP.

## 6.2 Health & Safety

**LBUSD STAFF SHOULD BE AWARE OF BOTH THE NOTIFICATION AND HEALTH AND SAFETY REQUIREMENTS DESCRIBED BELOW, SHOULD ANY ACTIVITIES BE COMPLETED AT THE SITE THAT INVOLVE SOIL DISTURBANCES.**

Health and Safety training requirements have been detailed above in **Section 4.2**. For planned soil removal actions by a Remediation Contractor, a site-specific HASP will be prepared in accordance with 8 CCR 5192 (B) and implemented. The HASP should be reviewed by all workers prior to initiating any intrusive work performed at the Site. The HASP should incorporate the requirements specified by the HAZWOPER Standard (Title 8 CCR Section 5192), and include:

- A safety and health risk or hazard analysis for each site task;
- Employee training assignments;

- Personal protective equipment (PPE) to be used by employees for the site tasks and operations being conducted;
- Medical surveillance requirements;
- Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.
- Site control measures;
- Decontamination procedures;
- An emergency response plan for safe and effective responses to emergencies, including the necessary PPE and other equipment;
- Silica safety considerations
- Confined space entry procedures (as needed);
- A spill containment program; and
- Heat/cold stress consideration.

Site safety briefings are to be conducted daily prior to starting removal action field work. The briefings should further identify potential physical, chemical or any other specific workplace hazards, and go over procedures to be taken in the event of an emergency. Personnel on Site should be briefed, given the opportunity to review the HASP, and required to sign a HASP compliance agreement.

The LBUUSD FEM, MEHSM, or their designee(s), should be notified at least seven days in advance of activities on the Site that disturb soil, and consulted on the appropriate Health and Safety requirements. For activities that disturb soil in areas with no prior known impacts, these requirements should generally include precautionary measures to minimize direct contact with soil (long pants, long sleeves, gloves), keeping removed soils in as small of an area as possible, vigilance for any unusual soil staining/discoloration, unusual odors, or visibly abundant debris/ash/lampblack, and cessation of activities when any of these field observations are detected. Where soil is to be disturbed coinciding with prior known impacts, the requirements should generally include compliance with a HASP, such as that described above. Areas with known or suspected impacts exceeding RGs may include:

- Areas shown on **Figures 6-8 (in Appendix B)**, which are known as Phase 2 “hot spots”. These are to be removed during planned school modernization activities scheduled to start in 2022, and are likely to remain in-place until that time (GSI, 2019).
- Soils in selected areas that are greater than 5 feet deep below ground surface (bgs), and below the maximum depth of a previous removal action (see **Figures 9 & 10, Appendix B**)
- Soils in selected areas less than 5 feet deep, most of which are beneath or immediately adjoining buildings (see **Figure 11 Appendix B**).



### 6.3 Utility Clearance, Fencing & Signage

When proceeding with planned soil removals, the Remediation Contractor will be required to clear overhead and subsurface utilities in accordance with applicable law and standard industry practices. This will include notifying Underground Service Alert (USA) and working with the LBUSD to identify on-Site utilities using existing maps. A geophysical survey contractor could also be used to locate utilities, or other potential subsurface features, in and immediately surrounding the areas to be excavated. Any on-Site utilities in close proximity to the excavation areas should be deactivated, if this can reasonably be completed.

Fencing with windscreen should be installed around the perimeter of the working areas of the Site to minimize wind-blown transport of contaminants during earthwork activities. Access to these fenced in areas should be restricted to work personnel, and gates locked and secured when Site personnel are not present.

Appropriate warning signs regarding the ongoing construction should be posted on the fencing. The signage should also include the SCAQMD telephone number for air quality complaints. The signs should be written in English and Spanish.

### 6.4 Delineation of Earthwork Area

When soils exceeding RGs are detected in unforeseen areas, and their extent has subsequently been adequately assessed, a licensed surveyor or other appropriate method such as Global Positioning System should be used to visually delineate these soils in advance of any planned soil removal activities, or other soil disturbance activities nearby.

Areas with soils previously known to exceed RGs should also be visually delineated by a licensed surveyor prior to any planned soil removal, or other nearby soil disturbance activities. These areas include those shown on attached **Figures 6-8** (in **Appendix B**), and are currently known as Phase 2 soil removals per the DTSC-approved RAP (GSI, 2019).

## 7.0 SOIL EXCAVATION/DISPOSAL

Soil determined to exceed Remediation Goals (RGs) during maintenance or repair operations should be removed using the procedures described in this section, along with the Field Preparations discussed above in **Section 6.0**.

This SMP is not intended to guide the 2022 planned Phase 2 DTSC-approved Remedial Action Plan (RAP) delineated “hot spot” removals (GSI, 2019). Should unforeseen circumstances result in the incompleteness of Phase 2 delineated “hot spot” removals before the end of 2022, or if maintenance or repair activities require work in the Phase 2 delineated “hot spot” areas prior to completion of the 2022 removals, then this SMP will be used to guide soil excavation activities and the protection of contractors, employees, students and any others that may be exposed to Site COCs resulting from work in these areas. Attached **Figure 12** (in **Appendix B**) shows the current planned 2022 ball field project and Modernization areas in OU-1 and OU-2A relative to Phase 2 soil removal areas.

### 7.1 Excavation Methods / Bin or Container Storage

Soil can be excavated manually with a shovel, with a backhoe, with a mini excavator, or a combination of these tools. A general rule of “no visible dust” should be adhered to during excavation and soil handling activities. Water will need to be applied to the soil for dust suppression as it is removed from the ground and stockpiled on plastic sheeting (i.e. visqueen) or loaded into bins.

If feasible and reasonable, soil should be directly loaded into plastic-lined roll-off bins or other plastic-lined appropriate DOT approved smaller containers. The bins are typically 20 CY capacity; however, alternative bin sizes may be used with permission from the LBUSD. The bins should have covers that can be secured/locked. Once the bins are filled to transport capacity (may be substantially less than 20 CY for 20 CY bins, due to on-road weight restrictions, axle considerations, etc.), they should be immediately covered and stored pending transport. Currently, the City of Avalon has a standard weight limit of 80,000 lbs. for vehicles on the roadway (Greenlaw, 2019). The weight of a transport truck, including the bin it is hauling with soil, must not exceed this weight limit, unless special permission is obtained from the City of Avalon.

The DOT-approved container or bin storage will be completed at a location agreed upon with the LBUSD, in consideration of other potential activities on the Site, the container / bin security, and the objective of maximizing their proximity to the soil removal areas. If needed, care should be taken to not damage the asphalt in the bin staging area through the use of wood cribbing or trench plates.

The work areas, and container / bin storage areas, are to be secured by the Remediation Contractor when their personnel are not present. While being stored, the containers/bins should be locked to prohibit access by anyone other than the Remediation Contractor personnel. The containers/bins should also be labelled with “pending analytical” or hazardous waste labels unless or until it is determined the soils are non-hazardous. The remediation contractor or waste hauler is responsible for proper placarding of hazardous or non-hazardous soils while being both stored temporarily, as well as during transportation.

## 7.2 Air Monitoring During Excavation

For planned soil removal actions by a District remediation contractor, air monitoring will be performed for two major purposes: 1) protection of Site workers and public safety, and 2) to assess the excavated soil and materials for potential contaminants. This air monitoring should be completed by the Districts Environmental Consultant. The air and soil monitoring will be performed continuously during excavation activities, and when tasks are performed that could potentially expose or release contaminants. Monitoring will include:

- Soil Monitoring – Although VOCs have not previously been identified in soil, the soil should be field screened utilizing a PID. Screening should be at the breathing zone of the active working areas, as well as near the location newly excavated soil is stockpiled/stored. Readings should be taken at least every 15 to 30 minutes and recorded.
- Air Monitoring – Air monitoring should comply with SCAQMD Rules 403 and/or 1466, which are discussed in more detail above in **Section 6.1.3**. A direct reading particulate monitor is to be used on site as required for safety, and compliance with SCAQMD Rule 1466. Air monitoring should also be done to ensure particulate concentrations in the breathing zone of remediation workers are not in excess of the Cal OSHA action level. Should airborne levels exceed the action level, appropriate respiratory protection is required.

## 7.3 Confirmation Sampling

RAP Phase 2 soil removals (Phase 2 “hot spots” as shown in **Figures 6-8** in **Appendix B**), should be completed using the DTSC approved RAP guidelines (GSI, 2019). Should unforeseen circumstances result in the incompletion of Phase 2 “hot spot” removals before the end of 2022, or if maintenance or repair work intersects with these Phase 2 “hot spots” prior to their 2022 removals, this SMP will be used to guide the soil excavation activities.

The RAP Phase 2 “hot spots” have generally been pre-assessed; therefore, no confirmation sampling is proposed in these areas, if their removal is completed under this SMP.

Confirmatory sampling *is* required during the removal of soil exceeding RGs in any areas outside of the RAP Phase 2 “hot spots”. Given the uncertainty of future circumstances, the following are general guidelines for confirmation sampling. These guidelines should be followed unless modifications are approved by DTSC.

- Confirmation samples should be collected from the sidewalls and bottom of the excavated areas.
- The number of confirmation samples, per excavated area, should be whichever is the greater of the following:
  - At least one sample per 10 linear feet of sidewall and one sample per 100 square feet of bottom.
  - A minimum of one sample per sidewall and bottom of each excavated area.

- Confirmation samples should be analyzed for Arsenic, Lead, PAHs, Dioxins/Furans. If any other COCs are identified or suspected, these analyses should also be completed. The laboratory conducting analyses should be ELAP certified for the analyses.

Alternatively, if it is possible to pre-assess/characterize the vertical and lateral extent of soils exceeding RGs prior to their removal, post-excavation confirmation soil sampling is not proposed. This is a similar approach to that used previously during the DTSC-approved RAP Phase I soil removals (GSI, 2019).

#### **7.4 Engineering Controls for Stockpiled Soil**

If reasonable and feasible, removed soil should be loaded directly into the DOT approved plastic-lined containers/bins. However, if temporary stockpiling is necessary, the following storm water Best Management Practices (BMPs) or other guidelines, should be implemented:

- Locate stockpiles away from concentrated flows of storm water, drainage courses and inlets;
- Stockpiles should be placed on an impervious surface (ex. visqueen sheeting);
- Stockpiled soil should be moistened to minimize dust emissions;
- Protect all stockpiles from storm water run-on using a temporary perimeter sediment barrier such as berms, dikes, silt fences or gravel bag barriers;
- Stockpiles should be covered to minimize vapor and dust emissions, and to control potential wind erosion. The cover should be anchored against possible winds;
- Stockpiles should be removed in a timely manner; and
- Any other requirements that may be required in a project specific SWPPP.

#### **7.5 Other Soil Handling and Management**

No soil loading should be done during moderate or heavy precipitation. No soil loading should be done when winds exceed 25 mph. All reasonable procedures should be implemented to minimize soil spillage or dust generation during loading.

#### **7.6 Contingency Plan**

If unknown soil conditions are encountered in the areas of planned soil removal, and the Remediation Contractor encounters pockets of highly impacted soil that may exceed remediation goals beyond the planned removal limits, the Remediation Contractor is to be prepared to implement additional removal, but only with approval from LBUSD. In general removal actions should not exceed 5 feet bgs, unless required for other maintenance, repair or construction/modernization reasons.

## 7.7 Waste Characterization

Either prior to, or following, soil excavation, field staff will collect representative samples of the material for waste characterization / disposal profiling. Sampling staff should be 40-hr Hazwoper trained.

The analyses will include those required by the potential disposal facilities, or as a general guideline the following: Total Petroleum Hydrocarbons (TPH C4-C36), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Title 22 metals, follow-up STLC on elevated metals, and TCLP metals. All analyses are to be completed at a laboratory with ELAP certifications for the analyses conducted.

The grab samples for waste characterization should be of sufficient volume, in laboratory approved containers, and with necessary preservatives, as required for the analyses to be performed. The laboratory should be consulted on these matters prior to sampling. In general, soil samples can likely be collected in laboratory approved 4-oz., glass jars with Teflon lined lids with possible additional sample retained in general accordance with EPA Method no. 5035 (for volatile compounds). If applicable, samples of any generated wastewater can be collected in 500 ml plastic laboratory-approved bottles and/or 40-ml glass VOA vials.

Categories of characterized soil waste may include: non-hazardous (but impacted) waste, California-hazardous non-RCRA waste, or RCRA hazardous waste. Based on past experiences with removal actions, most of the removed soils are anticipated to be non-hazardous.

When large volumes of soil in stockpiles or roll-off bins need to be characterized for disposal, the following guidelines should be used:

### If in 20 CY soil bins:

- Bins with 5 CY or less, one (1) sample
- Bins with 5-10 CY, two (2) samples
- Bins with 10 to 20 CY, three (3) samples

### If in Stockpiles:

- Stockpiles less than 10 CY, two (2) samples. Collected at random locations and depths in each half of stockpile.
- Stockpiles from 10-20 CY, three (3) samples. Collected at random locations and depths in each third of the stockpile.
- Stockpiles from 20-100 CY, four (4) samples. Collected at random locations and depths in each fourth of the stockpile.

Note: These samples can be composited and analyzed as 1 sample where appropriate.

## 7.8 **Soil Export Requirements**

The Remediation Contractor shall comply with LBUSD soil export requirements, notifications and processes. A copy of the 2019 requirements is provided in **Appendix E**; however the Remediation Contractor should inquire whether they have been updated. Import requirements are discussed below in **Section 9.0**.

## 8.0 POST-EXCAVATION SURVEYING / MEASUREMENTS

The horizontal boundaries of all soil removal areas completed under this SMP should be carefully documented. If removal volumes are greater than 10 cubic feet, they should be surveyed by a licensed surveyor, after the removal activities are deemed complete. If less than 10 cubic feet, the removal volumes should be measured and mapped relative to a permanent and easily identified reference point. Depths should be measured in detail with a field tape relative to surrounding site grade. The horizontal coordinates/location, as well as removal depths (below site grade), should be provided with any reporting on the removal actions.

## 9.0 BACKFILL MATERIAL REQUIREMENTS AND PROCEDURES

The Remediation Contractor is to ensure that imported backfill is free of contaminants, oversized material, significant organic material or construction debris. Contractor shall comply with LBUSD "Environmental Import Materials Testing" design specifications, and obtain advance District approval for any soil imported to the Site. Remediation Contractor shall also comply with DTSC's October 2001 Information Advisory on Clean Imported Fill Material. A copy of both specifications is included in attached **Appendix E**. Remediation Contractor should inquire whether these specifications have been updated.

## 10.0 WASTE TRANSPORTATION & DISPOSAL

In general, the remediation contractor or waste hauler is responsible for ensuring waste transportation and disposal is completed in accordance with applicable regulations and LBUSD guidelines.

### 10.1 Waste Transportation

The Remediation Contractor, or other qualified contractor, shall comply with LBUSD soil export requirements, notifications and processes. A copy of these requirements is provided in **Appendix E**.

Removed soil will be profiled, and approval received from the disposal facilities, before soil is transported off-site. The categories of characterized soil waste transported off site may include: non-hazardous (but impacted) waste, California-hazardous non-RCRA, or RCRA hazardous waste. Based on past experiences with removal actions, most of the removed soils are anticipated to be non-hazardous.

All waste transportation, from Site to the disposal facility, will be completed by a transporter experienced, insured, and licensed/registered with the California Department of Transportation registration (for the transport of hazardous soil wastes).

Soil removal volumes are unknown at this time, and will depend upon changing circumstances and potential discoveries of soil exceeding RGs in unforeseen areas. The duration of excavation and soil hauling activities also cannot be accurately estimated at this time.

Soils will be transported to the nearby harbor in plastic-lined DOT-approved covered and locked containers and barged from the island to the mainland for off-loading and transportation to the selected disposal facility. If needed, it is noted that approximately twenty 20 yard bins can be

transported per barge. Each truckload and barge load is to be accompanied by an appropriate non-hazardous or hazardous waste manifest. It should be noted that there is a Class III landfill on the island that can accept non-hazardous waste, however, as of 2007 the landfill has refused to accept non-hazardous waste from the Avalon K-12 School Campus.

A Transportation Plan has been prepared and included in **Appendix F**, based on information and assumption existing at the time this SMP was prepared. Upon selection of a qualified contractor, the waste disposal facilities should be further clarified by them based on waste characterization results, and an evaluation of disposal location availability and costs at that time. The Transportation Plan (**Appendix F**) should also be amended by that contractor prior to work completion.

## **10.2 Waste Disposal**

The categories of characterized soil waste transported offsite may include: non-hazardous (but impacted) waste, California-hazardous non-RCRA waste, or RCRA hazardous waste. Based on past experiences with removal actions, most of the removed soils are anticipated to be non-hazardous. The Remediation Contractor, or other qualified contractor, shall comply with LBUSD soil export requirements, notifications and processes. A copy of these requirements is provided in **Appendix E**.

Final determination of the facility identified for disposal will be based on the contractor and districts evaluation of the availability and disposal costs nearer the time of disposal. The disposal facility must be fully licensed to accept the type of wastes, and approved by the LBUSD. If accepted, the non-hazardous waste may be either recycled or disposed at a Class II or III landfill facility. Any non-RCRA California hazardous waste will be disposed at a Class I landfill facility, or other facility accepted by the LBUSD, and accepting of the waste.



## **11.0 CLOSURE REPORTS**

Upon completion of each significant removal event, a RACR or Construction Response (CR) documenting the soil removal activities, soil removal locations, any possible confirmations soil sampling, soil monitoring, waste characterization, and disposal documentation will be prepared. The RACR/CR will include, but not be limited to, the following:

- Background information on the removal actions, and associated DSTC approvals for these actions.
- A description of the remediation goals, and removal action activities.
- Site plans showing areas of soil removals, and locations/designations of any confirmation samples.
- Air monitoring reports documenting the results of all air monitoring measurements; to include the time, location, instrument type and reading, and concentration detected for each monitoring event.
- Tabulations of any confirmation or waste profiling samples, and laboratory reports with QA/QC.
- A description of the transportation and disposal of soil wastes, and associated documentation.
- Findings and conclusions.

The report(s) will be signed and stamped by a California Professional Geologist or California Professional Engineer experienced with similar types of activities.

## **12.0 ANNUAL INSPECTIONS**

Inspections will be conducted at the Site annually, and an annual report provided to DTSC for review/approval.

# APPENDIX A

## REFERENCES

Catalina Islander, 2008, Newspaper article, Page 4, dated October 31, 2008.

DTSC, 2010, Approval of Removal Action Completion Report, Western Ball Field Slope, Avalon Schools, 200 Falls Canyon Road, Avalon, dated March 8, 2010.

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DTSC, 2012, Imminent and Substantial Endangerment Determination and Remedial Action Order, Avalon K-12 School Property and the Westerly Adjacent Property, City of Avalon, Los Angeles County, dated March 5, 2012.

DTSC, 2014, No Further Action for Slope Area Between Avalon School Ball Field and City of Avalon Warehouse Property, Avalon K-12 School and City of Avalon Property, 200 and 661 Falls Canyon Road, Avalon (Site) (Site Code 404868), dated April 3, 2014.

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- Leighton, 2015, Time Critical Removal Action Completion Report, Southwestern Part of Western Ball Field Slope Area, Avalon K-12 School, 200 Falls Canyon Road, City of Avalon, Santa Catalina Island, Los Angeles, County, California; prepared for Long Beach Unified School District, dated January 26, 2016, revised May 15, 2015.
- Mission (Mission Geosciences, Inc.), 2009, Remedial Action Completion Report, Including Both Characterization and Remediation of Coke and PAH-Affected Soils in the Western Ball Field Slope, Avalon K-12 School Site, 200 Falls Canyon Road, Avalon, California; prepared for Long Beach Unified School District, September 30, 2009.
- Mission (Mission Geosciences, Inc.), 2008A, Supplemental Site Investigation, Avalon K-12 School Site, 200 Falls Canyon Road, Avalon, California; prepared for Long Beach Unified School District, dated January 31, 2008.
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- Mission (Mission Geosciences, Inc.), 2011, Removal Action Completion Report, Boys/Girls Locker Room Courtyard Area, Avalon K-12 School, 200 Falls Canyon Road, City of Avalon, California; prepared for Long Beach Unified School District, dated February 2, 2011.
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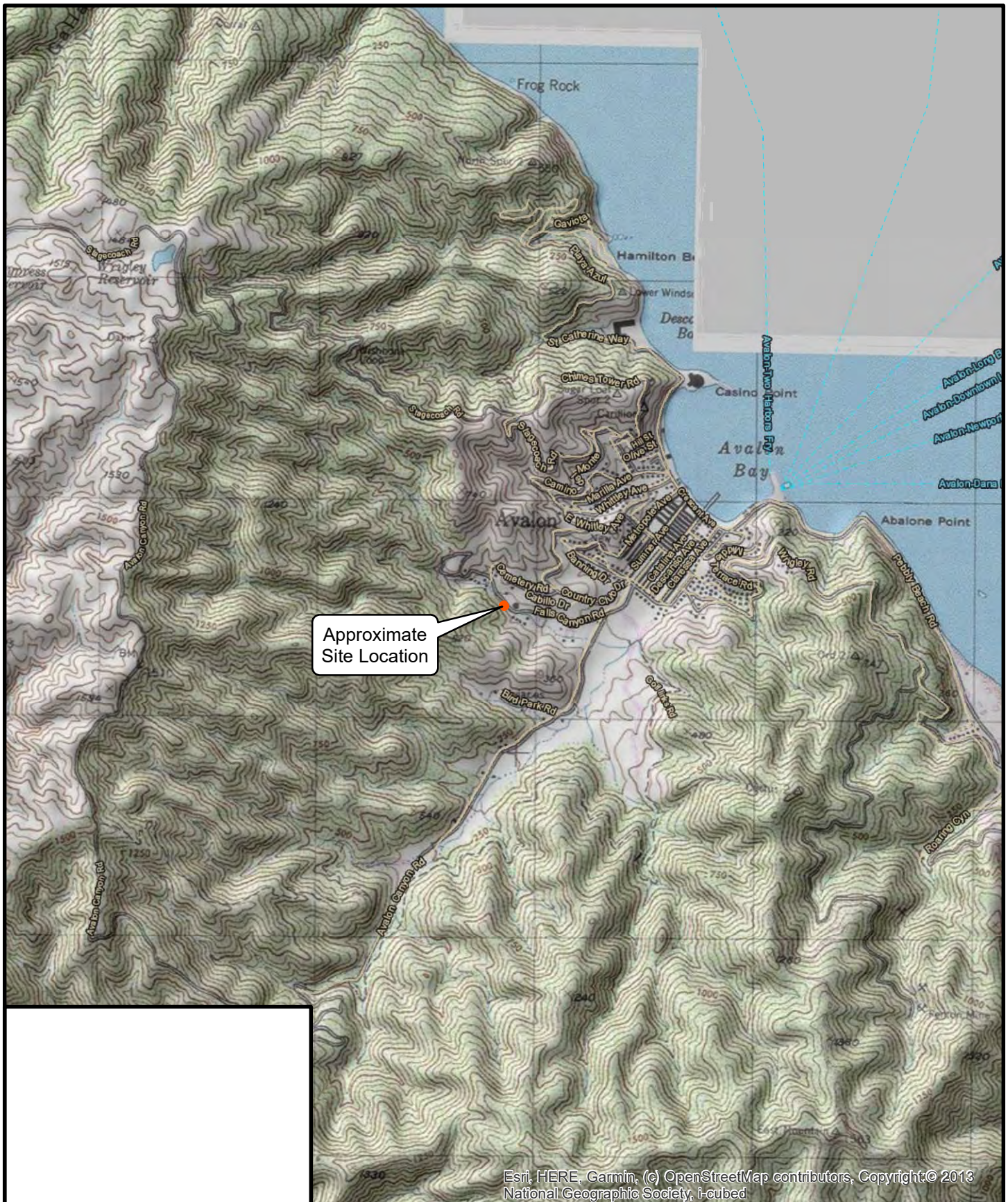
## APPENDIX B

### FIGURES



Leighton





Project: 12441.001	Eng/Geol: RBH/KRL
Scale: 1" = 2,000'	Date: April 2020
Base Map: ESRI ArcGIS Online 2020 Thematic Information: Leighton Author: (kmanchikanti)	

# **SITE LOCATION MAP** Avalon K-12 School 200 Falls Canyon Road City of Avalon, Santa Catalina Island Los Angeles, California

Figure 1



Leighton





Notes:  
1) Base map downloaded from United State Geological Survey, dated December 2013.  
2) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.

Project: 12441.001	Eng/Geol:KRL/RBH
Scale: 1 " = 120 '	Date: May 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

SITE LAYOUT  
Avalon K-12 School Property  
Avalon, California





**Notes:**  
1) Base map downloaded from United State Geological Survey, dated December 2013.  
2) Site features from EEC, *Remedial Investigation Report*, July 15, 2014.  
3) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.

Project: 12441.001	Eng/Geol:KRL/RH
Scale: 1" = 120'	Date: May 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

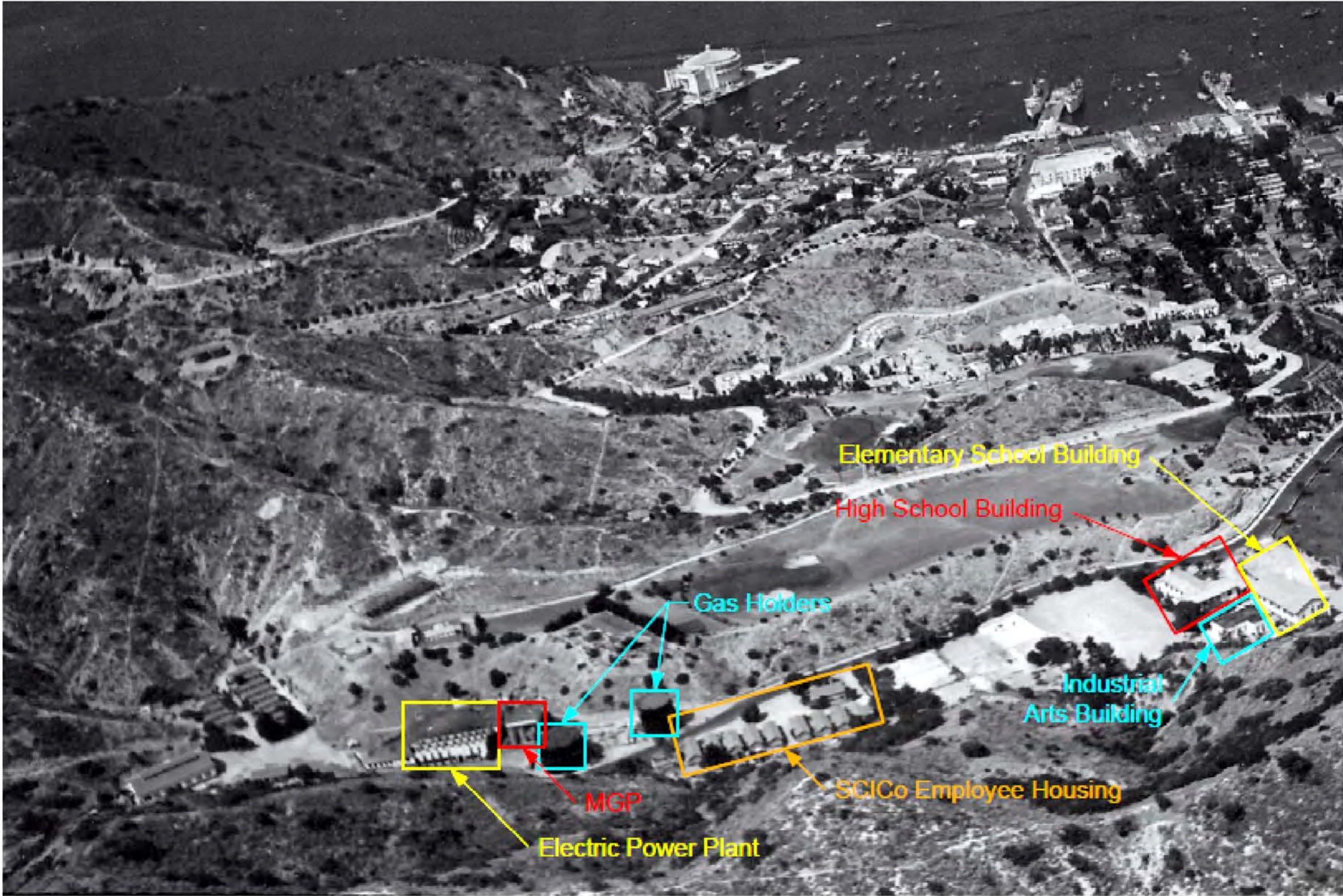
CURRENT AND HISTORIC SITE FEATURES

Avalon K-12 School Property  
Avalon, California

Figure 3







Notes:  
Figure by EEC, Remedial Investigation Report, July 15, 2014.

Project: 12441.001	Eng/Geol:KRL/RBH
Scale: 1" = 1'	Date: May 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

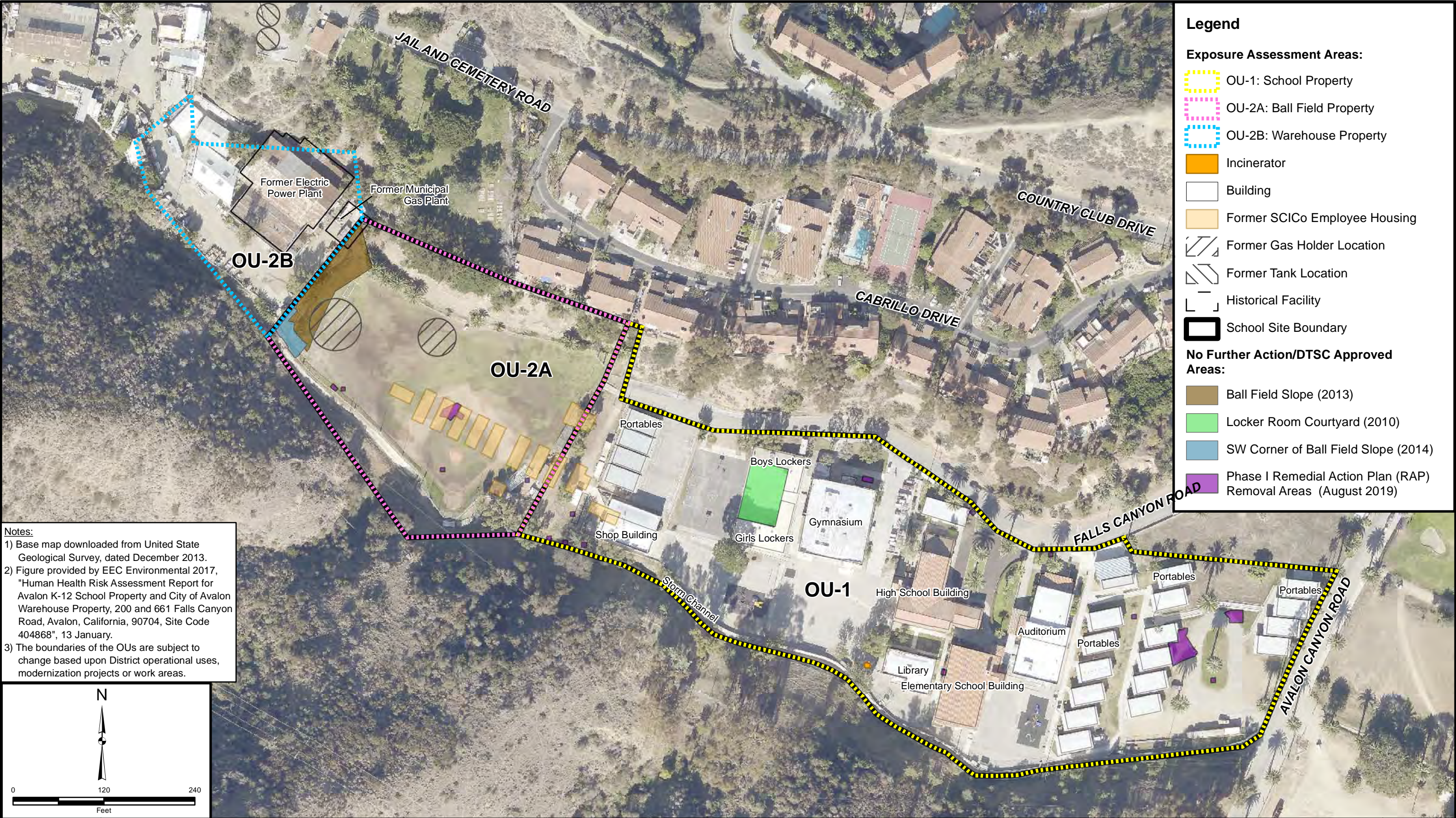
# HISTORICAL SITE FEATURES

Avalon K-12 School Property  
Avalon, California

Figure 4







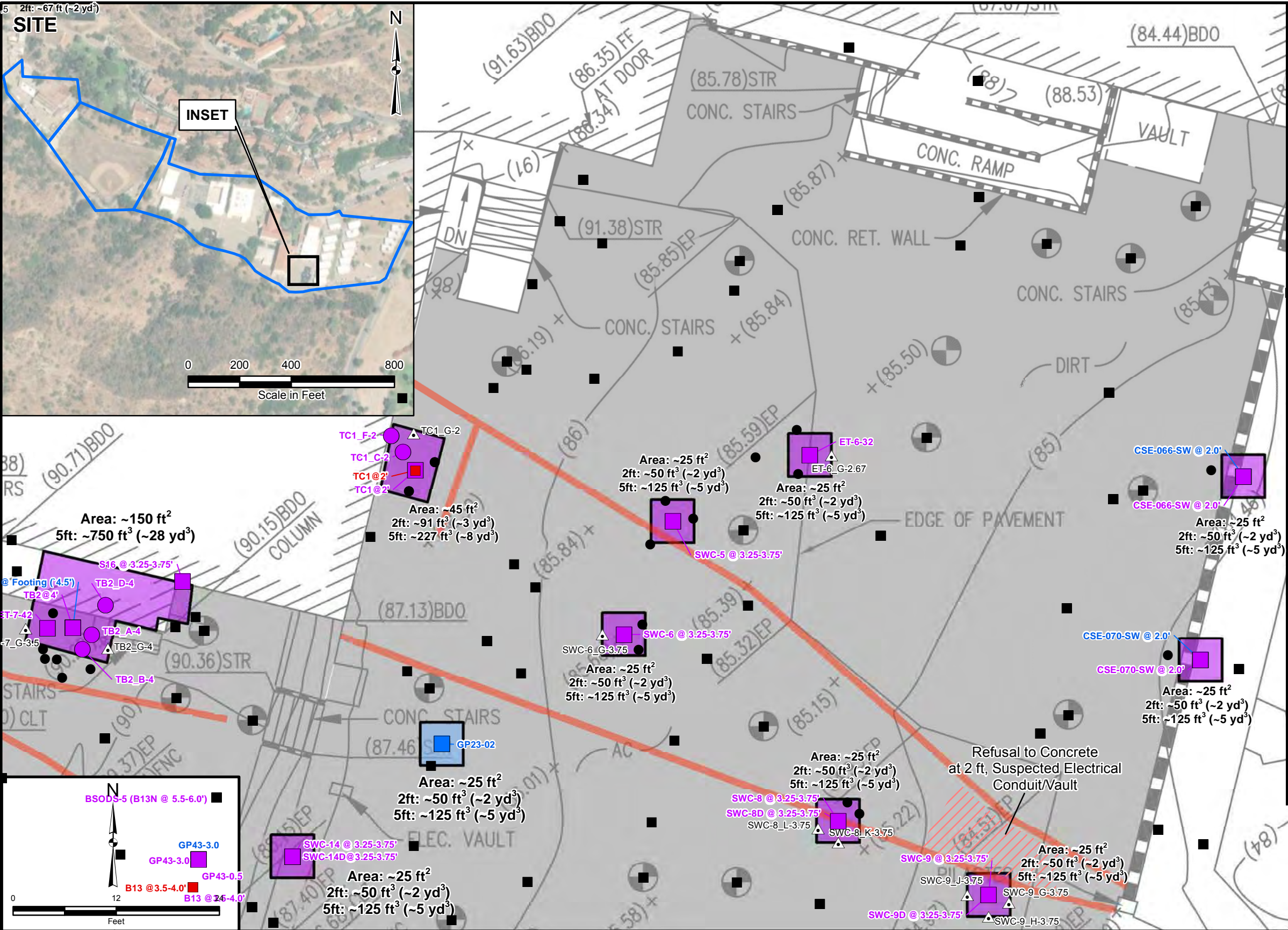
PREVIOUS NO FURTHER ACTION/DTSC APPROVED AREAS

Avalon K-12 School Property  
Avalon, California

Figure 5







### Legend

GS1 Sampling Location (January/February 2018)

- ▲ Exceeds the Arsenic Student/Worker RGs ( $\geq 20$  mg/kg)
- Exceeds the Lead Student RGs ( $\leq 2$ ft bgs  $\geq 200$  mg/kg) and/or Worker RGs ( $> 2$ ft bgs  $\geq 640$  mg/kg)
- ▲ Exceeds the BaP Eq Student/Worker RGs ( $\geq 2,000$   $\mu$ g/kg)
- △ Below the Student/Worker RGs for Any COC

GS1 Sampling Location (August 2017)

- Exceeds the Arsenic Student/Worker RGs ( $\geq 20$  mg/kg)
- Exceeds the Lead Student RGs ( $\leq 2$ ft bgs  $\geq 200$  mg/kg) and/or Worker RGs ( $> 2$ ft bgs  $\geq 640$  mg/kg)
- Exceeds the BaP Eq Student/Worker RGs ( $\geq 2,000$   $\mu$ g/kg)
- Exceeds the TCDD Eq Student RGs ( $\leq 2$ ft bgs  $\geq 100$  ppt) and/or Worker RGs ( $> 2$ ft bgs  $\geq 440$  ppt)
- Below the Student/Worker RGs for Any COC

Previous Sampling Location (2001-2014)

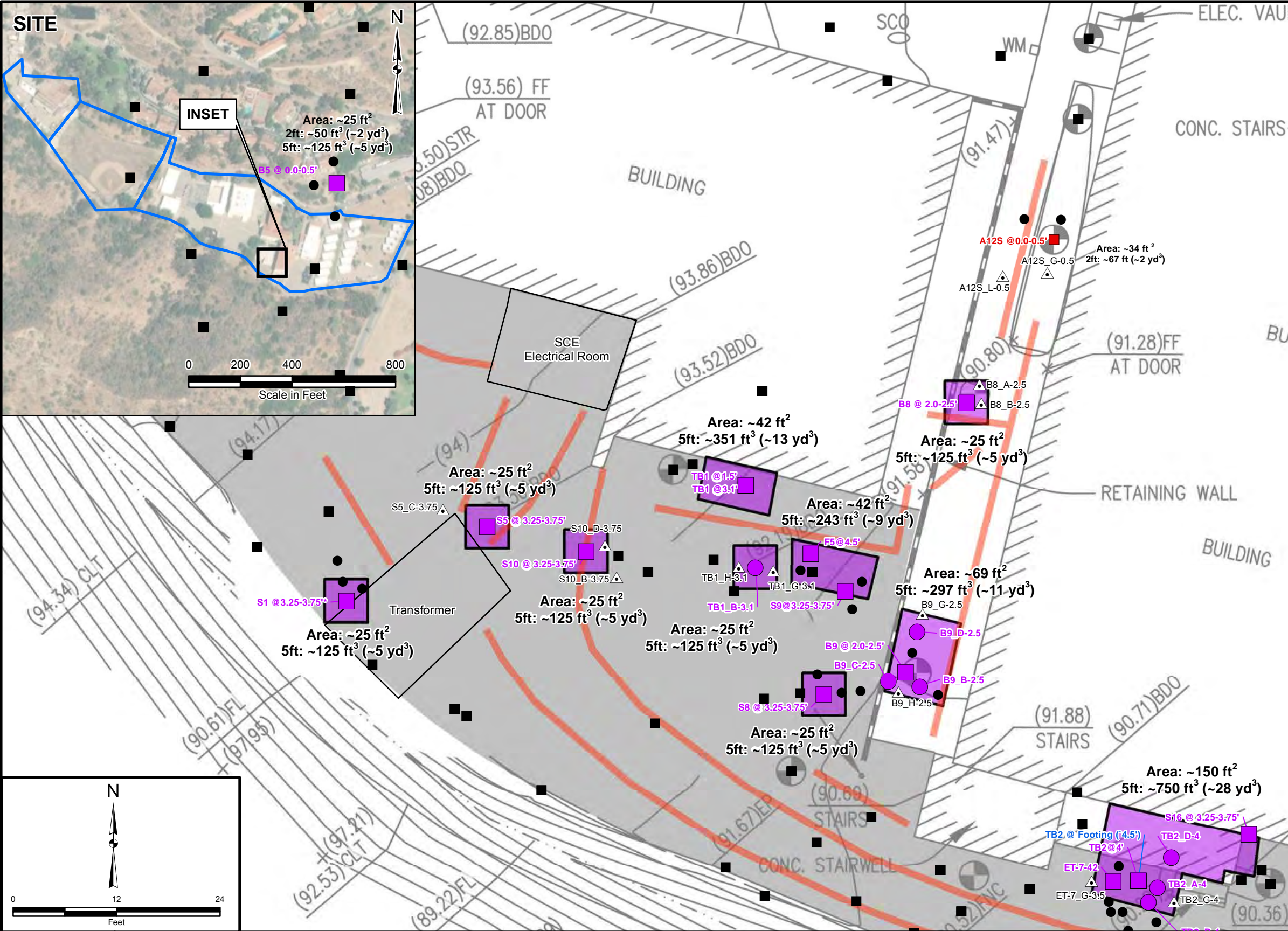
- Exceeds the Arsenic Student RGs ( $\geq 20$  mg/kg)
- Exceeds the Lead Student RGs ( $\leq 2$ ft bgs  $\geq 200$  mg/kg) and/or Worker RGs ( $> 2$ ft bgs  $\geq 640$  mg/kg)
- Exceeds the BaP Eq Student/Worker RGs ( $\geq 2,000$   $\mu$ g/kg)
- Exceeds the TCDD Eq Student RGs ( $\leq 2$ ft bgs  $\geq 100$  ppt) and/or Worker RGs ( $> 2$ ft bgs  $\geq 440$  ppt)
- Below the Student/Worker RGs for Any COC

- Approximate Location of Identified Subsurface Utilities
- Potential Excavation Area for Arsenic RG Exceedance
- Potential Excavation Area for Lead RG Exceedance
- Potential Excavation Area for BaP Eq RG Exceedance
- Potential Excavation Area for TCDD Eq RG Exceedance
- Paved Area
- Unpaved Area

**Notes:**

- 1) BaP Eq = Benzo(a)Pryene Equivalent; TCDD TEQ = 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxicity equivalent.
- 2) RG = Remediation goal; COC = constituent of concern; mg/kg = milligrams per kilogram;  $\mu$ g/kg = micrograms per kilogram; ppt = parts per trillion.
- 3) Value representing the excavation areas and volumes are rounded to the nearest whole number.





### Legend

GS1 Sampling Location (January/February 2018)

- ▲ Exceeds the Arsenic Student/Worker RGs ( $\geq 20$  mg/kg)
- ▲ Exceeds the Lead Student RGs ( $\leq 2$ ft bgs  $\geq 200$  mg/kg) and/or Worker RGs ( $> 2$ ft bgs  $\geq 640$  mg/kg)
- ▲ Exceeds the BaP Eq Student/Worker RGs ( $\geq 2,000$   $\mu$ g/kg)
- ▲ Below the Student/Worker RGs for Any COC

GS1 Sampling Location (August 2017)

- Exceeds the Arsenic Student/Worker RGs ( $\geq 20$  mg/kg)
- Exceeds the Lead Student RGs ( $\leq 2$ ft bgs  $\geq 200$  mg/kg) and/or Worker RGs ( $> 2$ ft bgs  $\geq 640$  mg/kg)
- Exceeds the BaP Eq Student/Worker RGs ( $\geq 2,000$   $\mu$ g/kg)
- Exceeds the TCDD Eq Student RGs ( $\leq 2$ ft bgs  $\geq 100$  ppt) and/or Worker RGs ( $> 2$ ft bgs  $\geq 440$  ppt)
- Below the Student/Worker RGs for Any COC

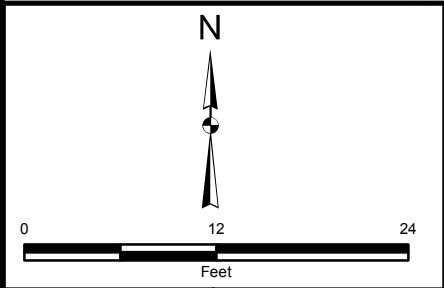
Previous Sampling Location (2001-2014)

- Exceeds the Arsenic Student RGs ( $\geq 20$  mg/kg)
- Exceeds the Lead Student RGs ( $\leq 2$ ft bgs  $\geq 200$  mg/kg) and/or Worker RGs ( $> 2$ ft bgs  $\geq 640$  mg/kg)
- Exceeds the BaP Eq Student/Worker RGs ( $\geq 2,000$   $\mu$ g/kg)
- Exceeds the TCDD Eq Student RGs ( $\leq 2$ ft bgs  $\geq 100$  ppt) and/or Worker RGs ( $> 2$ ft bgs  $\geq 440$  ppt)
- Below the Student/Worker RGs for Any COC

- Approximate Location of Identified Subsurface Utilities
- Potential Excavation Area for Arsenic RG Exceedance
- Potential Excavation Area for Lead RG Exceedance
- Potential Excavation Area for BaP Eq RG Exceedance
- Potential Excavation Area for TCDD Eq RG Exceedance
- Paved Area
- Unpaved Area

**Notes:**

- 1) BaP Eq = Benzo(a)Pryene Equivalent; TCDD TEQ = 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxicity equivalent.
- 2) RG = Remediation goal; COC = constituent of concern; mg/kg = milligrams per kilogram;  $\mu$ g/kg = micrograms per kilogram; ppt = parts per trillion.
- 3) Value representing the excavation areas and volumes are rounded to the nearest whole number.



Project: 12441-001	Eng/Geol:KRL/RH
Scale: 1" = 12'	Date: May 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

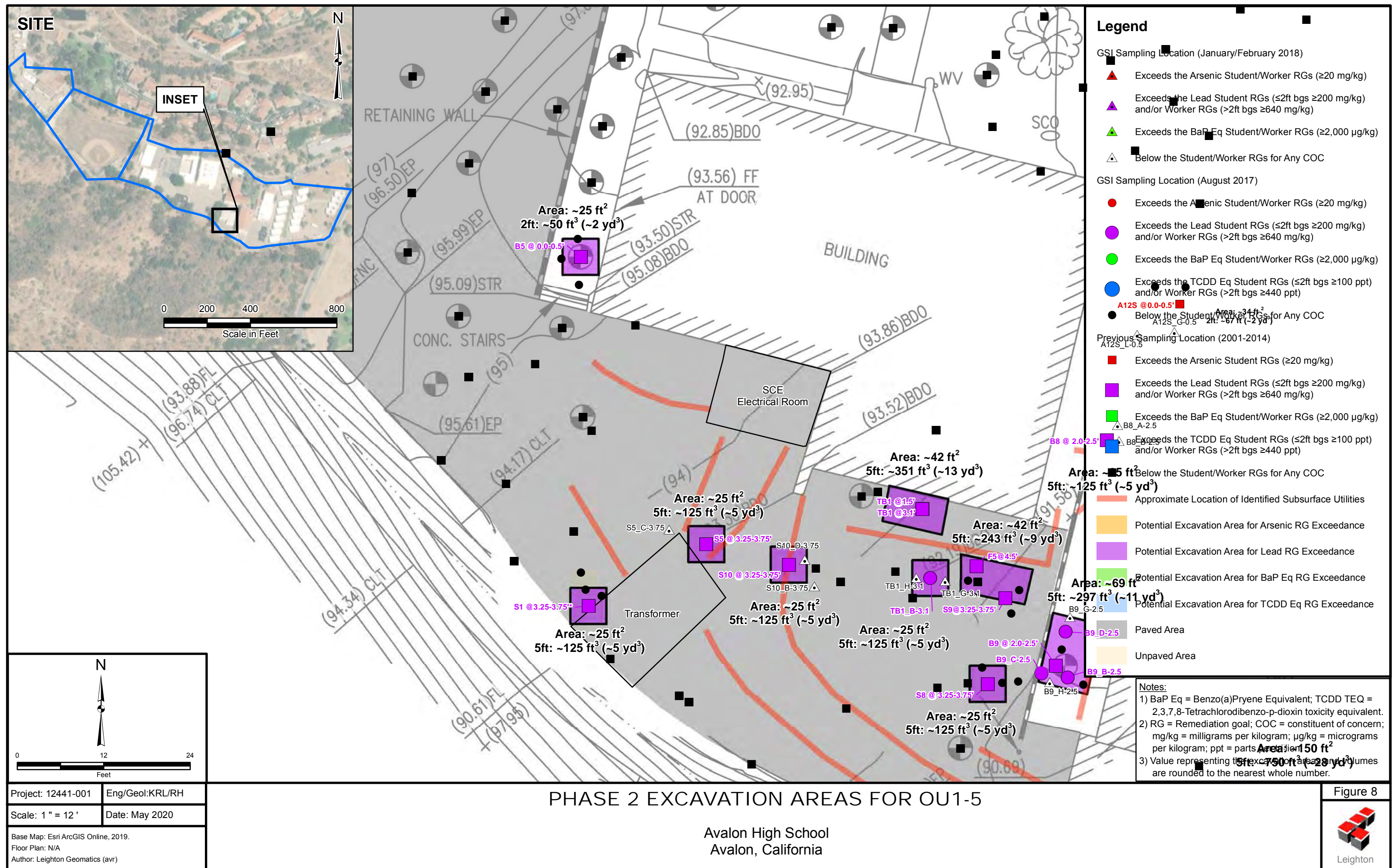
PHASE 2 EXCAVATION AREAS FOR OU1-4

Avalon High School  
Avalon, California

Figure 7

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Legend

Sample Location with Lead RG Exceedance at ≥5 ft bgs

Sample Location with Arsenic RG Exceedance at ≥5 ft bgs

Sample Location with PAH BaP-Eq RG Exceedance at ≥5 ft bgs

Former SCICo Employee Housing

Operable Unit Boundary

Phase 1 Areas of Prior Soil Removal

Notes:

1) Base map downloaded from United States Geological Survey, dated December 2013.

2) Figure provided by EEC Environmental 2017, "Human Health Risk Assessment Report for Avalon K-12 School Property and City of Avalon Warehouse Property, 200 and 661 Falls Canyon Road, Avalon, California, 90704, Site Code 404868", 13 January.

3) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.

4) RG = remedial goal; ft bgs = feet below ground surface; PAH = polycyclic aromatic hydrocarbons; BaP-Eq = Benzo(a)Pyrene equivalent.

N

0

70

140

Feet

Project: 12441.001	Eng/Geol:KRL/RH
Scale: 1 " = 70 '	Date: August 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

OU-1 LOCATIONS/AREAS WITH RG EXCEEDANCES ≥5 FEET BGS

Avalon K-12 School Property  
Avalon, California

Figure 9







Legend

Sample Location with Lead RG Exceedance at ≥5 ft bgs

Sample Location with Arsenic RG Exceedance at ≥5 ft bgs

Sample Location with PAH BaP-Eq RG Exceedance at ≥5 ft bgs

Former SCICo Employee Housing

Former Gas Holder Location

Historical Facility

Operable Unit Boundary

Phase 1 Areas of Prior Soil Removal

- Notes:
- 1) Base map downloaded from United States Geological Survey, dated December 2013.
  - 2) Figure provided by EEC Environmental 2017, "Human Health Risk Assessment Report for Avalon K-12 School Property and City of Avalon Warehouse Property, 200 and 661 Falls Canyon Road, Avalon, California, 90704, Site Code 404868", 13 January.
  - 3) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.
  - 4) RG = remedial goal; ft bgs = feet below ground surface; PAH = polycyclic aromatic hydrocarbons; BaP-Eq = Benzo(a)Pyrene equivalent.

Project: 12441.001

Eng/Geol:KRL/RH

Scale: 1" = 70'

Date: August 2020

Base Map: Esri ArcGIS Online, 2019.

Floor Plan: N/A

Author: Leighton Geomatics (avr)

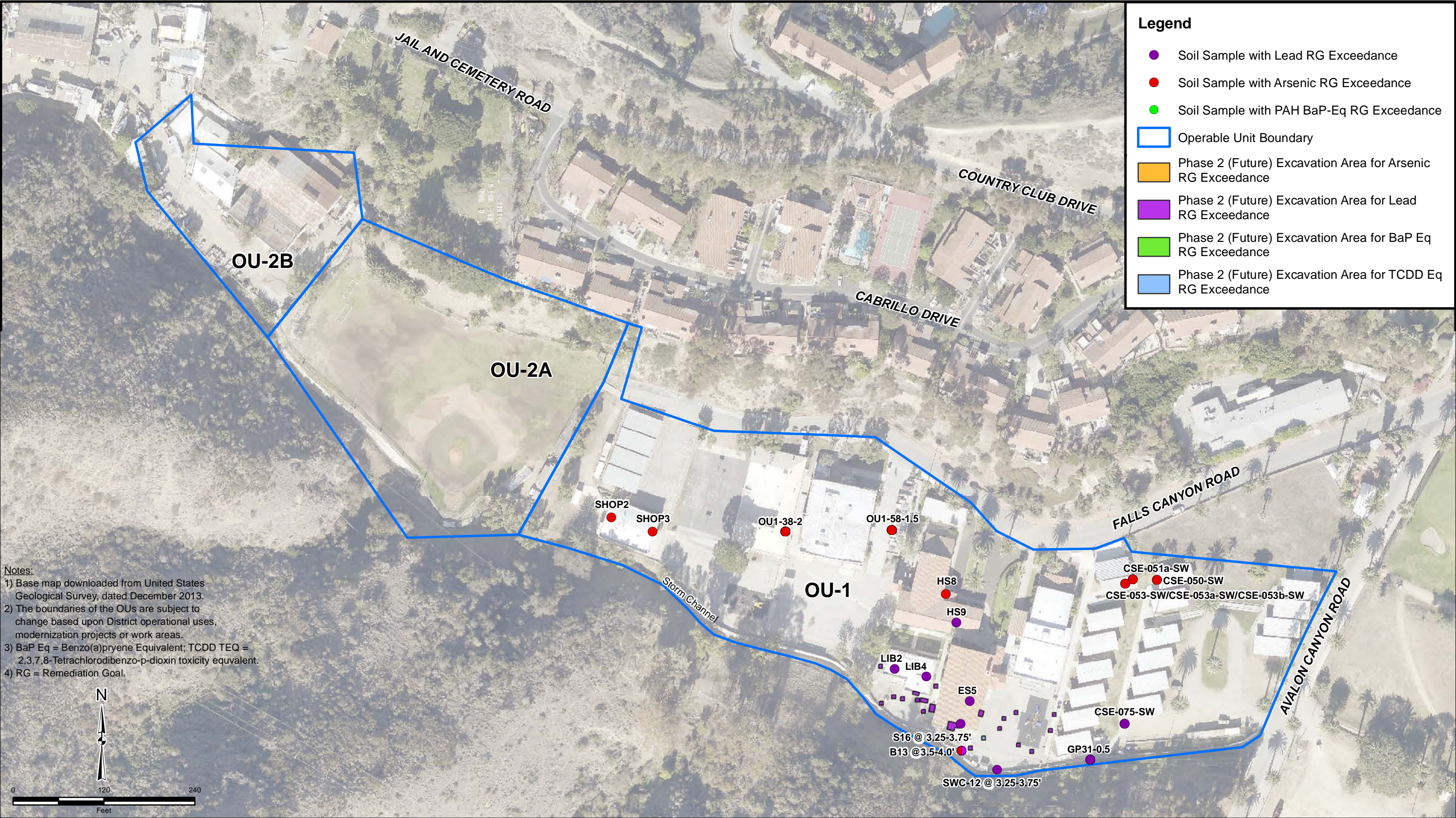
OU-2A LOCATIONS/AREAS WITH RG EXCEEDANCES ≥5 FEET BGS

Avalon K-12 School Property  
Avalon, California

Figure 10

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Notes:

- 1) Base map downloaded from United States Geological Survey, dated December 2013.
- 2) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.
- 3) BaP Eq = Benzo(a)pyrene Equivalent; TCDD TEQ = 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxicity equivalent.
- 4) RG = Remediation Goal.

Project: 12441.001	Eng/Geol:KRL/RH
Scale: 1" = 120'	Date: August 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

OU-1 & OU-2A KNOWN RG EXCEEDANCES <5' FEET BGS (MOST BENEATH/ADJOINING BUILDINGS)

Avalon K-12 School Property  
Avalon, California

Figure 11









## APPENDIX C

### DISTRICT-SPECIFIC HEALTH AND SAFETY TRAINING TABLES



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**TABLE 1**  
**SUMMARY OF PERSONNEL AND HAZARDOUS SUBSTANCES TRAINING REQUIREMENTS**

<b>PERSONNEL CATEGORY</b>	<b>Hazard Communication Training Only <sup>1</sup></b>	<b>24 Hour HAZWOPER Training<sup>2</sup></b>	<b>40 Hour HAZWOPER<sup>3</sup> Training</b>	<b>8 Hour Additional Supervisors Training</b>
Certificated (Principal, Teachers)	X			
Classroom/Yard Aides	X			
Coaches	X			
Administrative	X			
Cafeteria Staff	X			
Clerical	X			
Bus Drivers	X			
Custodial	X			
Maintenance Field Workers		X	X	
Maintenance Managers/Administration		X	X	
Groundkeepers/Landscaping		X	X	
Specialty Trades (Electricians, plumbers, equipment operators)		X	X	
Contractors		X	X	X

References - 8 CCR 5192 HAZWOPER Standard; 8 CCR 5194 Hazard Communication Standard (including constituents of concern onsite: 8 CCR 5214 Inorganic Arsenic, 8 CCR 1532.1 Lead, Dioxins, and Polyaromatic Hydrocarbons (PAHS) .

Notes:

1. Hazard Communication training to be conducted initially and whenever conditions change that warrant an update to the Hazard Communication Program.
2. 24 Hour HAZWOPER training consists of a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.
3. 40 Hour HAZWOPER training receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.

**TABLE 2**  
**HAZARDOUS SUBSTANCES TRAINING REQUIREMENTS PER SCENARIO**

SCENARIOS	HOT SPOT AREA <sup>1</sup>	OTHER AREAS
	TRAINING REQUIREMENTS	
Scenario 1 - Planned soil excavation in a hot spot (as identified in the RAP) which have not previously been removed.	40 Hour HAZWOPER <sup>2</sup>	40 Hour HAZWOPER <sup>2</sup>
Scenario 2 - Removal of impacted soil (exceeding RGs) that is unexpectedly encountered in the future during a modification/repair.	40 Hour HAZWOPER <sup>2</sup>	24 Hour HAZWOPER <sup>3</sup>
Scenario 3 - Personnel that may need to be in the area(s) of hot spot activities to perform their work but will not be performing work that involves direct personal contact with the hazardous substances. (Not penetrating the surface and no remediation activities).	Hazard Communication <sup>4</sup>	Hazard Communication <sup>4</sup>
Scenario 4a –Personnel that will disturb subsurface soils for planned utility repair/maintenance in an area – less than 5 feet.	40 Hour HAZWOPER <sup>2</sup>	Hazard Communication <sup>4</sup>
Scenario 4b –Personnel that will disturb subsurface soils for planned utility repair/maintenance in an area – greater than 5 feet.	40 Hour HAZWOPER <sup>2</sup>	40 Hour HAZWOPER <sup>2</sup>
Scenario 5 – District environmental management staff observing various activities at the site but not entering the controlled work area(s).	Hazard Communication <sup>3</sup>	Hazard Communication <sup>4</sup>
Scenario 6 – Other Non-District remediation project-related parties observing various activities at the site but not entering the controlled work area(s).	Hazard Communication <sup>4</sup>	Hazard Communication <sup>4</sup>
Scenario 7a - Emergency workers that might disturb the soil (firefighters clearing brush, utility company doing emergency line repairs, etc.) less than 5 feet.	40 Hour HAZWOPER <sup>2</sup>	Hazard Communication <sup>4</sup>
Scenario 7b - Emergency workers that might disturb the soil (firefighters clearing brush, utility company doing emergency line repairs, etc.) greater than 5 feet.	40 Hour HAZWOPER <sup>2</sup>	40 Hour HAZWOPER <sup>2</sup>

References - 8 CCR 5192 HAZWOPER Standard; 8 CCR 5194 Hazard Communication Standard (including constituents of concern onsite: 8 CCR 5214 Inorganic Arsenic, 8 CCR 1532.1 Lead, Dioxins & Polyaromatic Hydrocarbons (PAHS).

**Notes:**

1. Applicable until Remedial Action Plan removal is completed and approved by Department of Toxic Substances Control.
2. 40 Hour HAZWOPER training receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.
3. 24 Hour HAZWOPER training consists of a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.
4. Hazard Communication training to be conducted initially and whenever conditions change that warrant an update to the Hazard Communication Program.

## APPENDIX D

### SUMMARY DECISION TREE AND ASSOCIATED NOTES



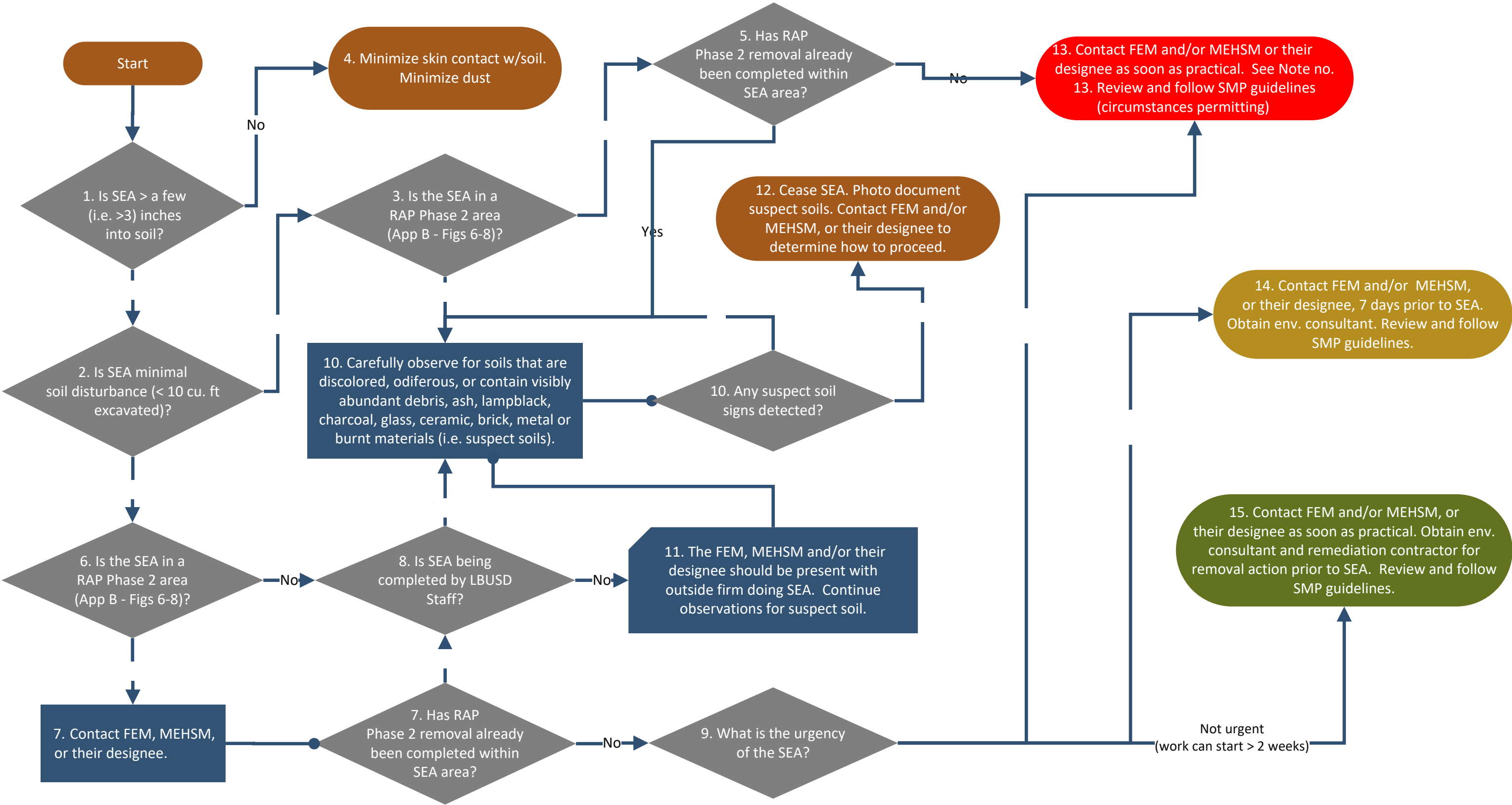
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Common Abbreviations:

SEA = Soil Excavation Activity  
RAP = Remedial Action Plan  
(2019 DTSC approved)  
FEM = Facilities Env. Manager  
MEHSM = Maintenance Environmental  
Health and Safety Manager

SOIL MANAGEMENT PLAN (SMP) SUMMARY DECISION TREE

This Decision Tree is a highly simplified summary of actions to take when investigating whether to perform, or performing activities, that will disturb the soil. This Decision Tree is not a comprehensive SMP, should not be relied upon as such, and should be used in conjunction with the SMP which contains additional details and explanations. In the case of a potential conflict between this Summary Decision Tree and the remainder of the SMP, the remainder of the SMP shall govern and control.



1. Is the SEA a substantial disturbance of soil (i.e. soil excavation greater than 3 inches into soil)? (Section 5.0 of SMP).
2. Is the SEA a minimal soil disturbance scenario (i.e. < 10 cu. feet of soil disturbed/excavated)? (Section 5.2 of SMP)
3. Is the SEA in a RAP Phase 2 Area (see Appendix B – Figures 6-8)? (Section 5.1 of SMP)
4. Minimize direct skin contact w/soil (gloves, long pants, long sleeves). Minimize dust (wet soil w/ light spray, avoiding water runoff)
5. Contact FEM and/or MEHSM, or their designee, to determine if the delineated RAP Phase 2 removal actions have already been completed within the SEA area. (Section 5.1 of SMP)
6. Is the SEA in a RAP Phase 2 Area (Appendix B – Figures 6-8) (Section 5.1 of SMP)
7. Contact FEM and/or MEHSM, or their designee, to determine if the delineated RAP Phase 2 removal actions have already been completed within the SEA area. (Section 5.1 of SMP).
8. Is SEA being completed by LBUSD staff? (Section 5.3 of SMP)
9. What is the urgency of the work involving the SEA? (See 13, 14, or 15) (Section 5.3 of SMP)
10. Carefully observe for soils that are discolored, odiferous, or contain visibly abundant debris, ash, lampblack, charcoal, glass, ceramic, brick, metal or burnt materials (i.e. suspect soils) and photo document. Are any of these signs detected? (Section 5.5 of SMP)
11. The FEM, MEHSM and/or their designee should be present with outside firm or subcontractor doing SEA. Continue observations for suspect soil while working. (Section 5.4 of SMP)
12. Cease SEA. Photo document suspect soils. Contact FEM and/or MEHSM or their designee to determine if area has already been characterized, whether any additional documentation, observation or characterization may be needed, and how to proceed with future SEA (Section 5.5 of SMP)
13. Contact FEM and/or MEHSM or their designee, as soon as practical, for supervision. Review and follow SMP guidelines (circumstances permitting) (Section 5.3 of SMP)  
Minimize direct skin contact w/soil (gloves, long pants, long sleeves)

Minimize dust (wet soil with light spray, avoiding water runoff)  
Stockpile excavated soil on plastic sheeting and cover with same  
Prevent access to others not doing the SEA  
Coordinate with FEM to dispose of removed soils as soon as practical  
Document SEA (including location and dimensions) with notes and photographs & provide to FEM and MEHSM  
FEM or MEHSM to furnish report to DTSC as soon as practical

- 14** Contact FEM and/or MEHSM or their designee 7 days in advance (Sections 5.1 and 5.3 of SMP)  
District should obtain environmental consultant for supervision and documentation  
Review and follow SMP guidelines  
Minimize direct skin contact w/soil (gloves, long pants, long sleeves)  
Minimize dust (wet soil with light spray, avoiding water runoff)  
Stockpile excavated soil on plastic sheeting and cover with same  
Prevent access to others not doing the SEA  
Coordinate with FEM to dispose of removed soils as soon as practical  
Document SEA (including location and dimensions) with notes and photographs & provide to FEM and MEHSM  
FEM or MEHSM to furnish report to DTSC as soon as practical
- 15.** Contact FEM and/or MEHSM or their designee 7 days in advance (Sections 5.1 and 5.3 of SMP)  
District should obtain environmental consultant for supervision and documentation  
District should obtain remediation contractor for advance removal action in SEA area  
Review and follow SMP guidelines  
Minimize direct skin contact w/soil (gloves, long pants, long sleeves)  
Minimize dust (wet soil with light spray, avoiding water runoff)  
Stockpile excavated soil on plastic sheeting and cover with same  
Prevent access to others not doing the SEA  
Coordinate with FEM to dispose of removed soils as soon as practical  
Document SEA (including location and dimensions) with notes and photographs & provide to FEM and MEHSM  
FEM or MEHSM to furnish report to DTSC as soon as practicable.

## APPENDIX E

### LBUSD EXPORT & IMPORT SPECIFICATIONS & DTSC IMPORT GUIDANCE



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SECTION 01 45 25

ENVIRONMENTAL EXPORT MATERIALS TESTING

PART 1 – GENERAL

This Section specifies the requirements for the sampling, testing, transportation, disposal, and associated documentation of exported materials (i.e., excess soil and/or environmental waste) from school sites.

1.01 SUMMARY

- A. This Specification defines:
  - 1. CONTRACTOR submittal requirements.
  - 2. Testing requirements for all materials exported, stockpiled or generated for use on a school site.
  - 3. CONTRACTOR requirements for exporting materials from a school site including transportation, disposal, and reporting requirements.
- B. RELATED SECTIONS
  - A. General Conditions.
  - B. Section 01 11 00: Summary of Work.
  - C. Section 01 31 13: Project Coordination.
  - D. Section 01 32 13: Construction Schedule.
  - E. Section 01 32 29: Project Forms
  - F. Section 01 33 00: Submittal Procedures.
  - G. Section 31 22 00: Grading.
  - H. Section 31 23 13: Excavation and Fill.
  - I. Section 31 23 16: Excavation and Fill. (Pavement)
  - J. Section 31 23 19: Excavation and Fill (Structures).
  - K. Section 31 23 23: Excavation and Fill (Utilities).
  - L. Section 32 11 00: Base Course.

1.02 OBJECTIVES

- A. Ensure that materials exported from school sites for use at school and non-school sites or offsite disposal/recycling are adequately characterized for lawful disposition.
- B. Ensure that materials exported from school sites comply with California Code of Regulations (CCR) Title 22, 40 CFR (Code of Federal Regulations), and California Environmental Protection Agency (Cal EPA) requirements.
- C. Ensure that representative data be collected so that analytical determinations can be made in regards to the first objectives.

1.03 SUBMITTALS

CONTRACTOR shall submit to Owner's Authorized Representative (OAR) for transmittal to LBUSD Environmental Compliance Manager:

- A. CONTRACTOR shall provide the LBUSD Compliance Manager an export stockpile testing request in writing only when the stockpile is fully generated and must allow at

least **14 calendar days** for stockpile to be sampled and analytical results to be received (which includes a **5 business day** Turn Around Time [TAT] for laboratory analysis of samples). A copy of the “Request for Export Materials Testing Form” is attached. If Contractor requested faster TAT for analytical results, please refer to provisions under Section 3.04.

- B. Written documentation, in the form of a memo or e-mail from the CONTRACTOR to the OAR, is required prior to export, verifying that the hauling contract specifies “clean” trucks and that the actual haul trucks utilized for export activities will be free of visible environmental impact (i.e., staining or discoloration) or deleterious materials.
- C. Written documentation confirming that the trucks traveled directly from the source location to the recipient location with no detours or stops at other locations and that short loads were not augmented by other materials that were not tested as part of the final export activities. It is the CONTRACTOR’s responsibility to document that no other trips or short load augmentation occurred and submit the documentation **within seven (7) calendar days** of the completion of the import/export activities. All export transportation activities shall be conducted in accordance with all applicable (local, State, Federal) rules and regulations.
- D. Certification, in the form of completed waste manifests, documenting the volume and recipient of all export materials and activities. This documentation shall be coordinated through the OAR and LBUSD Environmental Compliance Manager. Contractor shall provide, track, and maintain a log of all exported materials.

Specific Export Requirement:

- a. Prior to the export of material from a site, the Contractor must provide a “Request for Export Material Testing” form a minimum of **one (1) week** prior to the scheduled material export date.
- b. All export material must be disposed of at a permitted facility ONLY (e.g., landfill, hazardous waste disposal facility).
- c. CONTRACTOR shall hire the appropriately licensed contractor/waste hauler to transport export material based on the waste classification. Provide documentation and submit for approval.
- d. CONTRACTOR is responsible for finding acceptable permitted facilities for any exports deemed unusable at the target site (i.e., source site) or environmentally impacted or contaminated, unless facilities are otherwise specified by the LBUSD. The CONTRACTOR shall obtain the receiving facilities’ waste profiling/waste acceptance requirements and abide by the same.
- e. Unless otherwise specified, CONTRACTOR shall provide to the District the receiving facilities’ profiling and acceptance criteria so that the LBUSD Environmental Consultant can perform the requisite testing based on requirements of the site or facility.
- f. The Environmental Compliance Manager shall confirm that the proposed waste classification for any proposed export material is appropriate. Contractor shall provide to the LBUSD Environmental Compliance Manager information on the necessary waste manifest documentation no later than **14 calendar days** from the date of material/waste hauling from the LBUSD site to a permitted disposal facility.
- g. Unless otherwise specified, CONTRACTOR shall provide a waste acceptance letter to the District from the designated disposal facility prior to any export from the District’s site. This letter must state the waste soil will not be sold, and that it will remain in place at the receiving facility, also include the associated

- laboratory reports used to consider the acceptance, and the assigned waste profile number.
- h. CONTRACTOR shall provide a draft hazardous or non-hazardous waste manifest to the LBUSD Environmental Compliance Manager, or their representative, for review and approval before shipping any hazardous or non-hazardous waste.
  - i. CONTRACTOR must complete the appropriate waste manifest(s) and provide a copy signed by the receiving site. A copy of the executed manifest for each load shall be provided to the District Representative and the LBUSD Environmental Compliance Manager
  - j. Non-hazardous manifests need to be signed by generator (generator section can be signed by field CM “on behalf of LBUSD”) and transporter. Manifests for each truck load must be provided to the LBUSD Environmental Compliance Manager at the end of each shipping day. A copy of each manifest should be kept by the signer and a couple copies retained by the transporter. Transporter will ensure manifests are signed off by the facility.
  - k. CONTRACTOR must complete truck logs with date, truck identifier, and time of truck departure. Truck logs are to be provided to the LBUSD Environmental Compliance Manager
  - l. CONTRACTOR must provide weight tickets from the receiving facility that correspond with each of the non-hazardous waste manifests.
  - m. Materials identified as hazardous wastes will need the site US EPA waste generator identification number and hazardous waste manifests prepared with requisite information on generator and receiving facility.
  - n. No third party sale and/or brokering of excess material are permitted by the District.

#### 1.04 APPROVALS

Export of soil, granular base, geotechnical grading, filling materials at LBUSD sites will occur ONLY with PRIOR approval of the LBUSD Environmental Compliance Manager.

### PART 2 – PRODUCTS

#### 2.01 MATERIALS

- A. Exported/Site Generated:
  - 1. Soils: Soils proposed for export shall be tested pursuant to the requirements of 40 CFR, CCR Title 22, and the intended receiving facility’s acceptance criteria. (Note: Once soils or other materials for export have been tested, they cannot be disturbed or added to or reused for any purpose without prior approval by LBUSD Environmental Compliance Manager.)
  - 2. Gravels/Sands: Gravels, sands, or other natural rock materials shall not be exported from a LBUSD project site without prior testing by the LBUSD Environmental Compliance Manager. An exception to this provision is gravel adhering to concrete or asphalt pavement. In this instance and in consultation with the LBUSD Environmental Compliance Manager, the CONTRACTOR may be allowed the disposal of said materials as construction debris without sampling and analytical testing required under this Section.
  - 3. Miscellaneous Material. No miscellaneous material or other similar materials shall be exported from a LBUSD project site without prior evaluation, testing, and approval of the

LBUSD Environmental Compliance Manager. No crushed miscellaneous material containing concrete, asphalt, construction debris, or other potential deleterious materials that is generated onsite may be used as fill or grading material of any sort at a LBUSD project site. Material that is not required to be tested, such as demolished asphalt and concrete fragments, shall be segregated and stockpiled separately. The onsite use of crushing equipment is not permitted.

### PART 3 – EXECUTION

#### 3.01 GRADING/EXCAVATION

- A. If the CONTRACTOR encounters an area(s) with discolored, stained, and/or odorous soils or any other evidence of contamination during excavation/grading work, CONTRACTOR must immediately notify the OAR, cease work at the aforementioned area(s), and secure the area(s) with fencing, tape, stakes or other suitable means to prevent entry by personnel or equipment. Upon notification, the OAR will immediately notify the LBUSD Environmental Compliance Manager, which will initiate a construction response to address the area(s) of concern, in accordance with pertinent regulatory requirements.
- B. CONTRACTOR is to develop and implement a system by which profiled soils are segregated, tracked, and identified, so as not to mix those with different waste classifications or disposal locations. The system should be clear, easy to understand, and identified to all personelle (field and transport) working on the project, in the language they best understand. Additionally, if soils are pre-profiled prior to excavation, a system should be developed and implemented prior to excavation to identify the waste classifications and disposal locations for each excavation area, so as to ensure it is containerized and transported to the appropriate disposal facility, as well as to prevent mixing of different waste types during excavation and containerization.

#### 3.02 SAMPLING AND TESTING

- A. All export material testing will be performed by the District's third party Environmental Consultant. Contractor must coordinate with the OAR per Item 1.03, of this Section, to request testing.
- B. Unless otherwise indicated and approved by LBUSD, export testing and certification process shall include the steps listed below. Owner (i.e., the District) retains the right to refuse exporting materials to any disposal facility.
  - 1. Stockpile or containerize all materials for sampling (standard stockpile or backhoe pothole stockpile). Materials generated by CONTRACTOR at a school site must be segregated by material type (e.g., separate stockpiles for concrete, asphalt, etc. – not to be tested).
  - 2. If stockpiling occurs, place the stockpile materials ON plastic sheeting. Apply appropriate dust control measures to prevent dust generation from stockpiles; and be compliant with appropriate rules and regulations prescribed by the South Coast Air Quality Management District. Maintain dust control measures at all times and under all environmental conditions.
  - 3. DO NOT RELOCATE AND DO NOT ADD to a stockpile once sampled by the District's third party Environmental Consultant.
  - 4. Apply appropriate storm water pollution prevention measures around the stockpiles. CONTRACTOR generating stockpile shall be held fully responsible for any violation(s) arising out of non-compliance related to storm water pollution issues associated with the stockpile.
  - 5. Provide completed "Request for Export Material Testing" form, per Item 1.03.A.
- C. The District's third party Environmental Consultant shall perform the required tests and report results of all tests and shall furnish copies to the OAR, CONTRACTOR, Project Inspector (PI), Architect,

Contractor, DTSC, and/or others as required. Report shall state tests were conducted under the responsible charge of a licensed State of California professional engineer or professional geologist and the material was tested in accordance with applicable provisions of the Contract Documents, CCR, CFR, DTSC, DSA, and requirements of the recycling/disposal facility.

- C. Export materials shall be stockpiled by Contractor and are deemed acceptable for export or reuse only when it is demonstrated to the satisfaction of LBUSD Environmental Compliance Manager that the subject materials meet the requirements of this Section.
- D. All export material shall be characterized, handled, and documented in accordance with applicable US EPA (United States Environmental Protection Agency) and State of California hazardous waste and hazardous materials regulations. For the purpose of this specification, “contaminated” shall mean any soil or geotechnical material with constituent concentrations, which would require disposal at a permitted facility (i.e., impacted but non hazardous, California hazardous non-RCRA, or RCRA hazardous). District Representative must be notified at least **five (5)** days prior to the disposal of any hazardous waste or hazardous material. No material disposal or reuse can take place without prior documented approval of LBUSD Environmental Compliance Manager.

### 3.03 TRANSPORTATION

- A. Haul Routes and Regulations/Restrictions: CONTRACTOR must comply with any requirements of project environmental disclosure documents (i.e., CEQA EIR) and authorities having jurisdiction over the project area and the proposed activities (e.g. Regional Water Quality Control Board, DTSC, etc.).
- B. Any waste material needed to be disposed at a permitted disposal facility MUST be transported by an appropriately licensed contractor/waste hauler.
- C. CONTRACTOR shall comply with the site-specific TRANSPORTATION PLAN & GENERAL HEALTH AND SAFETY (dated May 1, 2019). Please also note that this plan describes significant limitations on the degree to which soil bins can be filled, due to transportation weight restrictions.
- D. CONTRACTOR shall identify any special considerations which may materially affect the scope or cost of their efforts as a result of accommodating requirements of Catalina Freight / longshoremen. Those issues which materially affect the scope or cost shall be clearly identified and quantified.

### 3.04 COSTS

- A. District will incur the costs for export stockpile testing. However, if the CONTRACTOR requests a faster TAT for analytical results, the CONTRACTOR will be responsible for the costs for expedited analyses and solely responsible for any schedule delay(s). Please note, any request for TAT less than 48-hours (two business days) will be rejected. District will make an attempt to honor faster TAT request, however, it is subject to availability of laboratory capacity and field sampling personnel. CONTRACTOR’s submission of a request for a faster TAT (for analytical results) should not be construed as District’s approval for such requests. District shall not be liable in any way if such request could not be approved and/or honored.
- B. CONTRACTOR shall pay all fees associated with loading, hauling and disposal of exported soil and aggregates.
- C. CONTRACTOR shall pay all fees for loading, hauling, disposal and/or processing of contaminated and/or hazardous soil and/or waste materials identified in the contract documents.
- D. In case of any violation(s) of the above-mentioned provisions outlined in this document, the CONTRACTOR must furnish a Release of Liability to the LBUSD, AND will bear any and all financial burden arising from such. In case of any noted violation the LBUSD Environmental Compliance Manager has the sole discretion on means and methods of rectifying such, cost for which shall be solely borne by the CONTRACTOR.

END OF SECTION 01 45 25



## REQUEST FOR EXPORT MATERIALS TESTING FORM

Date:	Request #:
Project Name:	
LBUSD Project No.:	
Contractor:	
Site Superintendent & Contact:	
School Site Exporting Material (Name and Address):	

### **Location of Soil Receiving Site:**

Receiving Site Address:	
Receiving Site City:	
Major Cross Streets:	

### **Receiving Site Owner Information:**

Owner Name:	
Contact Name:	
Contact Phone Number:	

### **Receiving Site History:**

Describe Current Site Use:	
Describe Site History:	
Available Environmental Documents:	

### **Export Soil Description:**

Material Type:			
Export Soil Volume:		(Cubic Yards)	
If in place material, depth and acres of excavation:			
<input type="checkbox"/> Only portion of material is available or <input type="checkbox"/> All required material is available	<input type="checkbox"/> Stockpile or <input type="checkbox"/> In Place		
Area ready on Export Site?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

### **Schedule:**

Date and time when results are needed:	
<u>Comments:</u>	

Note: Contractor shall submit receiving facilities profile along with this testing form. Requests for export materials testing must be received a minimum of two (2) weeks in advance of material needing to be exported.

SECTION 01 45 24

ENVIRONMENTAL IMPORT MATERIALS TESTING

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section specifies the requirements for the sampling, testing, transportation and certification of imported fill materials (i.e., earth materials, such as, soil, rock, crushed aggregate base, sand, compost, planter mix) to school sites.
- B. This Section defines:
  - 1. Contractor requirements for use of existing, imported or generated materials on school sites.
  - 2. Contractor requirements for stockpiling materials for use on schools sites.
  - 3. Contractor requirements for importing materials to a school site including transportation.
  - 4. Testing requirements for all materials imported
  - 5. Contractor submittal requirements.

1.02 RELATED SECTIONS

- A. General Conditions.
- B. Section 01 11 00: Summary of Work.
- C. Section 01 31 13: Project Coordination.
- D. Section 01 32 13: Construction Schedule.
- E. Section 01 32 29: Project Forms
- F. Section 01 33 00: Submittal Procedures.
- G. Section 09 24 23: Cement Plaster and Metal Lath
- H. Section 31 22 00: Grading.
- I. Section 31 23 13: Excavation and Fill.
- J. Section 31 23 16: Excavation and Fill. (Pavement)
- K. Section 31 23 19: Excavation and Fill (Structures).
- L. Section 31 23 23: Excavation and Fill (Utilities).
- M. Section 32 11 00: Base Course.

1.03 OBJECTIVES

- A. Ensure that fill materials imported to school sites are safe for students, staff, and visitors (i.e., for sensitive receptors considering residential land use).
- B. Ensure that materials imported to school sites comply with any and all applicable California Code of Regulations (CCR), Code of Federal Regulations (CFR), and California Environmental Protection Agency (Cal EPA), Department of Toxic Substances Control (DTSC) requirements for school site use.
- C. Ensure that representative data be collected so that analytical determinations can be made in regards to the first two objectives.



## 1.04 SUBMITTALS

- A. Contractor shall submit to District Representative for transmittal to LBUSD Environmental Compliance Manager:
1. Written documentation, in the form of a memo or e-mail from the Contractor to the District Representative, is required prior to import, verifying that the hauling contract specifies “clean” trucks and that the actual haul trucks utilized for import activities will be clean of visible contamination or deleterious materials.
  2. Written documentation confirming that the trucks traveled directly from the source location to the recipient location with no detours or stops at other locations and that short loads were not augmented by other materials that were not tested as part of the final import activities. It is the Contractor’s responsibility to document that no other trips or short load augmentation occurred and submit the documentation within seven (7) calendar days of the completion of the import activities. All import transportation activities shall be conducted in accordance with all applicable (local, State, Federal) rules and regulations.
  3. The District’s third party Environmental Consultant shall perform testing of imported and site generated fill materials and report results of all tests and shall furnish copies to the District Representative, Project Inspector (PI), Architect, Contractor, DTSC, and/or others as required. Report shall state tests were conducted under the responsible charge of a licensed environmental professional (licensed State of California Professional Engineer [PE Civil], Professional Geologist [PG] or familiar with environmental site assessment and the material was tested in accordance with applicable provisions of the Contract Documents, CCR, CFR, DTSC, and DSA.
  4. Certification, in the form of haul tickets or bill of lading, documenting the volume and recipient of all import materials and activities. This documentation shall be coordinated through the District Representative and LBUSD Environmental Compliance Manager. Contractor shall provide, track, and maintain a log of all imported materials.
  5. Specific Import Requirements:
    - a. Within twenty (20) calendar days of receipt of Notice to Proceed, the contractor shall submit a spreadsheet listing all required import material types including but not limited to backfill soil, sand, gravel, and crushed aggregate base (**NO Crushed Miscellaneous Base (CMB) shall be allowed for use on LBUSD projects**). The list shall include estimated volumes required by each subcontractor and the intended borrow site locations each contractor intends to utilize. See 2.01B for pre-evaluated sites.
    - b. Prior to the import of material from a District pre-evaluated site, the Contractor must provide a “Request for Import Material Testing” form a minimum of two (2) weeks prior to needing material on site. For a non-pre-evaluated site, Contractor must provide the same form a minimum of four (4) weeks prior to needing material on site. The “Request for Import Material Testing” form can be found in Specification Section 01 32 29. Expedited approvals are NOT allowed on import requests from a non-pre-evaluated facility. Contractor shall be solely responsible for any schedule delay(s) and/or associated cost arising of import from non-pre-evaluated facilities.
    - c. For approved import to school project sites, haul tickets may be utilized, and shall contain the following minimum information:
      - 1) Date(s) of haul activity.
      - 2) Address of source site.
      - 3) Address of recipient.

- 4) Load volume.
- 5) Day of departure from source.
- 6) Day of arrival at recipient site.
- 7) Signature of recipient or recipient's agent.
- 8) It is the Contractor's responsibility to confirm that no other trips or short-load augmentation occurred and submit documentation to the DISTRICT REPRESENTATIVE.

1.05 APPROVALS

- A. Import of soil, granular base, or geotechnical grading or filling materials at LBUSD sites will occur ONLY with PRIOR approval of the District through the District Environmental Compliance Manager.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Imported:

1. Soils: Soils proposed for import shall be tested pursuant to the requirements as outlined in Part 3 of this Section.
2. Gravels/CAB: Clean gravel, consisting of native rock from a commercial source, shall be tested pursuant to the requirements of this Section. Refer to part 2.01.B, of this Section, for the list of LBUSD pre-evaluated sites.
3. Sands: Clean sand from a commercial source shall be tested pursuant to the requirements of this Section. Refer to part 2.01.B, of this Section, for the list of LBUSD pre-evaluated sites. Plaster sand is included in this classification and must be tested per the requirements in this section.
4. Miscellaneous Material: **No crushed miscellaneous material (CMB) containing crushed concrete, asphalt, construction debris, recycled, or other potential deleterious materials may be utilized or imported to a LBUSD project site for use as fill or grading material.**

B. LBUSD Pre-Evaluated Sites:

1. Vulcan Materials Company  
1709 Sherbon Street  
Corona, CA 92879  
**Materials Tested: SE-30 Sand, CAB, 3/4 " Rock, 1.5" Rock, and 4" minus Rock**
2. Vulcan Materials Company  
16001 Foothill Blvd.  
Irwindale, CA 91702  
**Materials Tested: SE-30 Sand, Washed Plaster Sand, CAB, and 3/4" Crushed Rock, 3/8" Crushed Rock, 3/4" Turf Permeable Base**
3. Vulcan Materials Company  
2400 West Highland Avenue  
San Bernardino, CA 92407  
**Materials Tested: Birds Eye Sand**

4. Vulcan Materials Company  
Durbin Sand and Gravel  
13000 East Los Angeles Street  
Irwindale, CA 91706  
  
**Materials Tested: 1.0” Gravel, 1.5” Gravel, 5/16” Fill Rock, Washed Sand**
5. Vulcan Materials Company  
11401 W Tuxford Street  
Sun Valley, CA 91352  
**Materials Tested: SE-30 Sand, CAB**
6. Hanson Irwindale  
13550 Live Oak Lane  
Irwindale, CA 91706  
**Tested Materials: CAB, Washed Plaster Sand, SE-30 Sand, and 3/4” Rock**
7. P.W. Gillibrand Co.  
5810 Bennet Road  
Simi Valley, CA  
**Tested Materials: Washed Plaster Sand**
8. Cemex Rialto  
3221 North Riverside Avenue  
Rialto, CA  
**Materials Tested: CAB**
9. Foster Sand and Gravels (Werner Corporation)  
25050 Maitri Road  
Corona, CA  
**Tested Materials: Washed Plaster Sand, Top Soil**
10. Chandler Aggregates, Mayhew Plant (Werner Corporation)  
24867 Maitri Road  
Corona, CA  
**Tested Materials: SE-30 Sand, CAB**
11. Chandler Aggregates, Nichols Plant (Werner Corporation)  
1000 Nichols Road  
Lake Elsinore, CA  
**Tested Materials: SE-30 Sand**
12. Earthworks Soil Amends  
1725 Agua Mansa Rd  
Riverside, CA 92509  
**Materials Tested: Top Soil**
13. Agromin – Chino Processing Facility  
89100 Chino Corona Road  
Chino, CA 91708  
**Materials Tested: Mulch**

Materials at these facilities have been previously been tested and approved. However, upon submittal of a “Request for Import Material Testing” additional testing may be required; therefore, it is recommended to submit a request approximately two weeks prior to import to allow sufficient time for testing and/or approval.

Please contact the LBSD Environmental Compliance Manager for an updated list of pre-evaluated import facilities prior to import.

PART 3 – EXECUTION

3.01 SAMPLING AND TESTING

- A. All import material testing will be performed by the District's third-party Environmental Consultant. Contractor must coordinate with the District per Item 1.04, of this Section, to request testing.
- B. All fill/grading material must be tested at the site of origin. Import testing and certification process shall include the steps listed below. Owner (i.e., the District) retains the right to refuse import of fill material(s) from any particular site (even it is pre-evaluated).
- C. Apply appropriate dust control measures to prevent dust generation from import stockpiles/materials; and be compliant with appropriate rules and regulations prescribed by the South Coast Air Quality Management District. Maintain dust control measures at all times and under all environmental conditions.
- D. Apply appropriate storm water pollution prevention measures around the imported stockpiles. Contractor generating stockpile shall be held fully responsible for any violation(s) arising out of non-compliance related to storm water pollution issues associated with the stockpile.
- E. Provide completed Request for Import Fill Material Testing form, per Item 1.04.A.1.
- F. Import fill materials shall be stockpiled by Contractor (or the facility) at the site from where material is proposed to be imported, and are deemed acceptable for import only when it is demonstrated to the satisfaction of LBUSD Environmental Compliance Manager that the subject materials meet the requirements of this Section.
- G. Import fill material may be deemed defective for use by LBUSD Environmental Compliance Manager at a school site if any of the following results are obtained:
  - TPH are present at concentrations exceeding 10 milligrams per kilogram (mg/kg) for gasoline range organics, and/or 100 mg/kg for diesel range organics, and/or 500 mg/kg for oil range organics.
  - Solvents and other VOCs are present at concentrations exceeding the human health risk levels for unrestricted land use and/or hazardous waste characterization criteria whichever is lower.
  - PCBs are present at concentrations exceeding the human health risk levels for unrestricted land use and/or hazardous waste characterization criteria whichever is lower.
  - SVOCs are present at concentrations exceeding the human health risk levels for unrestricted land use and/or hazardous waste characterization criteria whichever is lower.
  - OCPs are present at concentrations exceeding the human health risk levels for unrestricted land use and/or hazardous waste characterization criteria whichever is lower.
  - Chlorinated herbicides are present at concentrations exceeding the human health risk levels for unrestricted land use and/or hazardous waste characterization criteria whichever is lower.
  - California Code of Regulations Title 22 (CAM 17) Metals at concentrations exceeding human health risk levels for unrestricted land use or typical background levels expected in California and/or hazardous waste characterization criteria whichever is lower.
- H. Hexavalent chromium is present at concentrations exceeding 15 mg/kg or failing hazardous waste STLC leachate criteria. Specification test results and LBUSD Environmental Compliance Manager approvals shall be valid for a period of 90 days from the date of the subject testing. Previously approved materials shall not be utilized after the 90 day limit without prior review and approval by the LBUSD Environmental Compliance Manager.
- I. Soils with concentrations above Section 01 45 24 - 3.02.d screening levels may, upon prior approval by LBUSD Environmental Compliance Manager, be reused at other school sites if supported by a site-specific human health risk assessment at the receiving school.

3.02 TRANSPORTATION

- A. Details of the samples and testing must be approved by LBUSD Environmental Compliance Manager before the materials from which the samples were collected undergo transportation.
- B. Haul Routes and Regulations/Restrictions: Contractor must comply with requirements of project environmental disclosure documents (i.e., CEQA EIR) and authorities having jurisdiction over the project area and the proposed activities (e.g. Regional Water Quality Control Board, DTSC, etc.).

3.03 COSTS

- A. District will incur the costs of testing for pre-evaluated sites identified in 2.01B and will provide one test for any single non-pre-test site. The costs for the testing of any subsequent sites shall be incurred by the Contractor.
- B. If the Contractor requests a faster TAT for analytical results, they will be responsible for the costs for expedited analyses. Please note, any request for TAT less than 72-hours (business hours) will be rejected. District will make an attempt to honor faster TAT request; however, it is subject to availability of laboratory capacity and field sampling personnel. Contractor's submission of a request for a faster TAT (for analytical results) should not be construed as District's approval for such requests. District shall not be liable in any way if such request could not be approved and/or honored.
- C. Contractor shall pay all fees for loading, hauling, and importing fill materials identified in the contract documents.
- D. If fill material is imported from any site without prior written approval from LBUSD and/or from a previously un-evaluated source(s), Contractor shall remove such material from the District's site at their own cost immediately upon discovery of such. Any delay in removal of such material may incur liquidated damages for each day such violation continues. In addition, under such scenario the LBUSD Environmental Consultant may collect necessary samples from the area(s) where the said material has been placed (if deemed necessary). All costs associated with such (including sampling, testing, further delineation, removal and disposal of impacted materials, field oversight, consulting, legal charges, and regulatory oversight fees) efforts shall be the Contractor's sole responsibility.

END OF SECTION 01 45 24



## REQUEST FOR IMPORT/FILL MATERIALS FORM

Date:		Request #:	
Project Name:			
LBUSD Project No.:			
Contractor:			
Site Superintendent & Contact:			
School Site Receiving Import (Name and Address):			

### **Fill Material Location:**

Borrow Site Address:	
Borrow Site City:	
Major Cross Streets:	

### **Owner Information:**

Owner Name:	
Contact Name:	
Contact Phone Number:	

### **Site History:**

Describe Current Site Use:	
Describe Site History:	
Available Environmental Documents:	

### **Material Type:**

<input type="checkbox"/> CAB	<input type="checkbox"/> Sand / Type:	<input type="checkbox"/> Rock / Type:	<input type="checkbox"/> Asphalt / Concrete
<input type="checkbox"/> Other			

### **NO CMB ALLOWED**

Import Volume (cubic yards):		(Tons)
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### **Schedule:**

Date and time when results are needed:	
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### **Comments:**

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NOTE: Attach quarry certification form/spec sheet for material requested

Note: Requests for testing at District pre-tested sites must be received two (2) weeks in advance of material being needed on site. Requests for non-pre-tested sites must be received four (4) weeks in advance of material being needed on site.

APPENDIX F  
TRANSPORTATION PLAN



Leighton

TRANSPORTATION PLAN FOR SOIL REMOVALS  
OU-1 (MAIN SCHOOL CAMPUS) & OU-2A (BALLFIELD)  
AVALON K-12 SCHOOL PROPERTY  
200 FALLS CANYON ROAD  
AVALON, CALIFORNIA 90704

Prepared For:

**LONG BEACH UNIFIED SCHOOL DISTRICT**  
2425 Webster Avenue  
Long Beach, California 90810

Project No. 12441.001

June 30, 2020



Leighton Consulting, Inc.

A LEIGHTON GROUP COMPANY



## TRANSPORTATION PLAN

The Site is approximately 11.6 acres in size, and is located at the mouth of Falls Canyon, where it terminates into Avalon Canyon. Future remedial actions are expected to include soil removal via excavation with off-Site disposal.

This Transportation Plan is prepared to address excavated soil that will be generated as part of the activities described above. Removal, transportation, and disposal activities will be performed in accordance with applicable federal, state, and local laws, regulations and ordinances.

During prior soil characterization activities, the Site was divided into three exposure units based on the current land use and historical operations. Operable Unit 1 (OU-1) is the Avalon School Campus (Main School Campus) which consists of school buildings, playgrounds, and parking. West of this is Operable Unit 2 (OU-2) comprised of two sub-units: OU-2A (the Ball Field) and OU-2B (the Warehouse Property).. **This Transportation Plan only pertains to OU-1 and OU-2A (properties occupied by Long Beach Unified School District). It does NOT pertain to conditions or activities in OU-2B (Warehouse Property Area – owned by others).**

### WASTE CHARACTERIZATION AND QUANTITY

Representative samples of the material to be transported and recycled and/or disposed will be sampled and analyzed, alternatively existing data may be used, for disposal profiling. The analytical requirements for disposal profiling will be those required by the potential recycling and/or disposal facilities. As a general guideline, the following analyses might be considered: Total Petroleum Hydrocarbons (TPH C4-C36), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Title 22 metals, follow-up STLC (as needed), and TCLP metals.. All analytical data must be from a laboratory with ELAP certifications for the analyses conducted.

Categories of characterized soil waste will likely include: 1) non-hazardous (but impacted), 2) California-hazardous non-RCRA hazardous waste, or 3) RCRA hazardous waste. It is initially estimated that a majority of the soils will be characterized as non-hazardous, and remaining likely California-hazardous non-RCRA waste. The possibility of RCRA hazardous waste is low, but should be planned for.

No accurate estimates of soil volumes are known at this time.

During field activities, the contractor will perform dust control measures including wetting disturbed ground with water as needed, and the use of gravel blankets, rumble plates, and, if necessary, tire washing at truck ingress and egress points to reduce tracked material. Work will be stopped if the wind speed exceeds 25 miles per hour. Dust control measures will follow the South Coast Air Quality Management District (SCAQMD) Rule 403 for Fugitive Dust and Rule 1466 for Control of Particulate Emissions from Soils with Toxic Air Contaminants (arsenic and lead).

### Schedule for Waste Profiling

The waste materials are to be profiled in advance of their transportation to a disposal or recycling facility to minimize delays, and the time which these excavated soils are staged on-site.

## **Known Chemicals of Concern**

During previous investigations completed by others, soils from the Project Site were analyzed and found to contain elevated concentrations of arsenic, lead, PAHs, and dioxin and furans. Some soils within OU-1 and OU-2A were evaluated to contain non-RCRA, but California hazardous levels of arsenic and PAHs. Wastes will be properly managed, manifested, and transported by a registered waste hauler to a permitted waste disposal facility. The Remediation Contractor shall comply with LBUSD "Environmental Export Materials Testing" specification.

## **SOIL STAGING**

According to SCAQMD Rule 1466, excavated soil with applicable "toxic air contaminants" must be immediately placed in covered containers (e.g. plastic-lined, covered roll-off bins), direct loaded into trucks, or staged in a fenced area that is not accessible to the public. Based on the results of the previous site investigations, volatile, toxic air contaminants are not expected to be encountered during excavation of impacted soils in OU-1 and OU-2A; however, the remediation contractor is to make every reasonable effort to avoid stockpiling soils by loading excavated soils directly into containers / roll-off bins. If stockpiling is necessary, soils will be stockpiled on plastic sheeting, and covered with the same, prior to loading. If the soil stockpile must be left over night or longer, the stockpiles will be moistened and covered to minimize dust emissions. Stockpiles will also be located in areas away from concentrated stormwater discharge and will be protected from stormwater runoff erosion by the use of berms, dikes, silt fencing or gravel bag barriers, and other best management practices.

## **REQUIREMENTS OF TRANSPORTERS**

The District and Remediation Contractor shall ensure that licensed and qualified transporters will be hauling the excavated soils offsite without delay. The selected transporters will be fully licensed and insured to transport the excavated soils. Specifically for the transportation of hazardous wastes, the selected transporter will have a California Department of Transportation registration for these wastes.

## **TRAFFIC CONTROL PROCEDURES**

Soil for offsite disposal will be loaded into DOT approved containers or covered 20-cubic yard roll-off bins and transported initially to Avalon Freight Services in Pebbly Beach where the bins will travel by barge to the mainland and, from there, onto the designated mainland disposal facilities. Prior to loading, the containers or roll-off bins will be temporarily staged onsite. The number of any truckloads will be highly dependent on volume of soil and /or the degree to which bins (if used) can be filled (due to transportation weight limits). While at the Site, and on the island, all soil transportation vehicles will be required to maintain slow speeds (less than ten miles per hour) for safety and dust control purposes. The City of Avalon should be notified at least a week in advance of any planned activities requiring multiple truck trips, and any special requirements of theirs applied.

## **TRUCK LOADING OPERATIONS**

Excavation and loading operations will commence no earlier than 8:00 am and continue until no later than 7:00 pm Monday through Saturday in conformance with local noise ordinance (Avalon Municipal Code Section 5-13.05). Excavation of impacted soil should not be conducted during normal school hours or

during youth activities taking place on the Ball Field portion of the School Property (e.g. youth organized sports or school sponsored activities), if feasible.

## TRANSPORTATION ROUTES, MODES AND DISTANCES

A summary table of the each of the transportation segments and their distances (Island, Maritime and Mainland) is provided at the end of this section in **Table 1** (for non-hazardous soil) and **Table 2** (for California hazardous, Non-RCRA soil). A detailed plan for transportation of RCRA waste is not included, as there is a low likelihood of such waste, and even if encountered, the volume is expected to be low. Additionally, its disposal may be acceptable at the same location as the California hazardous, Non-RCRA soil (must be confirmed), so. A detailed description of each transportation segment for the soil wastes is discussed below.

### On-Site

If multiple truck loads are involved, trucks will enter the School Property along Falls Canyon Road where they will pick up one of the roll off bins (likely staged along Falls Canyon Road) and proceed to the truck loading area within OU-1 or OU-2A, as necessary. An alternative route may be used based on specific work conditions. After loading, trucks will proceed through a decontamination area. The decontamination area will consist of an area adjacent to the loading area covered in visqueen. As necessary, trucks will drive over a rumble plate and onto the visqueen-covered decontamination area where their wheels and sides will be dry-brushed and swept of loose contaminated soil. Once decontaminated, trucks will then exit the school property via Falls Canyon Road. Manual sweeping will be used to remove dirt that is inadvertently tracked out of the excavation area onto paved surfaces. Excavating equipment used during the removal action will be swept and decontaminated in a similar fashion.

### Island

The Island segment of truck transportation is shown on attached **Figure 1**, and described as follows: Once heading northeast on Falls Canyon road, trucks will bear slightly to the left (north) and continue onto Avalon Canyon Road. At the stop sign intersection with Tremont Street, the trucks will then turn left and then quickly right (northeast) on to Sumner Avenue. The trucks will then turn right (southeast) onto Beacon Street and proceed to Clarissa Avenue. Trucks will then make a left turn (northeast) onto Clarissa Avenue and proceed to Crescent Avenue. Trucks will turn right (southeast) on Crescent Avenue and then quickly left (northeast) onto Pebbly Beach Road, and continue on Pebbly Beach Road until they reach Avalon Freight Services located at 40 Pebbly Beach Road, Avalon. With approval from Avalon Freight Services, the containers or bins will be staged temporarily at the Freight yard pending their loading onto the barge.

### Maritime

The Maritime segment of transportation is shown on attached **Figure 2**, and described as follows: The roll off bins will be loaded onto a roll-on/roll-off cargo barge. The barge will transport the containers or soil bins across the California Channel a distance of approximately 25 nautical miles (approximately 29 statute miles) to the Avalon Freight Services terminal in San Pedro (385 East Swinford Street San Pedro, California). Each barge is capable of carrying up to 20 bins, although the

actual number could be based on the timing of soil excavation and delivery of bins to the freight yard, freight company policies, and/or barge load weight restrictions.

## Mainland

The Mainland segment of transportation is shown on attached **Figures 3 and 4**, and described as follows: Once the containers or bins have arrived in San Pedro they will be loaded onto trucks and hauled to the appropriate mainland disposal facility. Containers or bins containing impacted/contaminated, non-hazardous soil will be transported via non-hazardous manifests to the mainland disposal facility at the Simi Valley Landfill located at 2801 Madera Road, Simi Valley, California. If a comparably licensed, and LBUSD-approved, substitute facility is agreed upon with the LBUSD, this transportation plan can be amended. Bins containing non-RCRA, California hazardous soil will continue to be transported via hazardous waste manifests to Waste Management's Kettleman Hills facility located at 35251 Old Skyline Road, Kettleman City, California. If a comparably licensed, and LBUSD-approved, substitute facility is agreed upon with the LBUSD, this transportation plan can be amended.

Assuming the Simi Valley landfill mentioned above, trucks carrying impacted, non-hazardous soils will head southwest on Swinford Street then turn right onto North Front Street. Trucks will then turn left onto the Interstate 110 (I-110) northbound onramp. Trucks will continue north on I-110 for 24 miles until they reach exit 26A for Interstate 5 (I-5). Trucks will exit I-110 and transition to the northbound I-5 for 18 miles until they reach exit 156A for California State Route 118 (SR-118). Trucks will exit I-5 and transition to the westbound SR-118 for 20 miles until they reach exit 40 for Madera Road. Trucks will exit the SR-118 at the Madera Road off-ramp. Trucks will turn left on to Viewline Drive and proceed on Viewline Drive 0.4 mile. Viewline Drive will become Simi Land Fill Road after approximately 0.4 miles. Trucks will continue on Simi Landfill Road for approximately 0.2 miles until they reach their destination.

Assuming the Kettleman Hills landfill mentioned above, trucks carrying non-RCRA California Hazardous waste head southwest on Swinford Street then turn right onto North Front Street. Trucks will then turn left onto the Interstate 110 (I-110) northbound onramp. Trucks will continue north on I-110 for 7 miles until they reach exit 9 for Interstate 405 (I-405). Trucks will exit I-110 and transition to the northbound I-405 for 36 miles until they merge onto the northbound Interstate 5 (I-5). Trucks will continue on the northbound I-5 for approximately 146 miles until they reach exit 309 for California State Route 41 (SR-41). Trucks will exit I-5 and run left and proceed southwest on SR-41 for 3 miles until they reach Old State Highway. Trucks will turn right onto Old State Highway and proceed for approximately 0.7 mile until they reach their destination.

With the exception of the Island and maritime segments, the transportation of impacted soils will be on arterial streets and/or freeways, approved for truck traffic, to minimize potential impact on local neighborhoods.

A summary table of the each of the transportation segments and their distances (Island, Maritime and Mainland) is provided at the end of this section in **Table 1** (for non-hazardous soil) and **Table 2** (for California hazardous non RCRA soil). As mentioned above, there is a low likelihood of RCRA waste, and if encountered, the volume is expected to be low. The disposal route may also be the same as that for California hazardous non-RCRA waste (must be confirmed).

**Table 1: Non-Hazardous Soil Disposal Facility Route**

<b>Origin</b>	<b>Destination</b>	<b>Distance</b>
Avalon School: 200 Falls Canyon Road Avalon, CA	Avalon Freight Services: 40 Pebbly Beach Road, Avalon, CA	1.6 miles
Avalon Freight Services: 40 Pebbly Beach Road, Avalon, CA	Avalon Freight Services: 385 Swinford Street, San Pedro, CA	25 nautical miles (29 statute miles)
Avalon Freight Services: 385 Swinford Street, San Pedro, CA	Simi Valley Landfill 2801 Madera Rd., Simi Valley, CA	62.4 miles

**Table 2: California Hazardous Non-RCRA Disposal Facility Route**

<b>Origin</b>	<b>Destination</b>	<b>Distance</b>
Avalon School: 200 Falls Canyon Road Avalon, CA	Avalon Freight Services: 40 Pebbly Beach Road, Avalon, CA	1.6 miles
Avalon Freight Services: 40 Pebbly Beach Road, Avalon, CA	Avalon Freight Services: 385 Swinford Street, San Pedro, CA	25 nautical miles (29 statute miles)
Avalon Freight Services: 385 Swinford Street, San Pedro, CA	Waste Management Kettleman Hills Facility, 35251 Old Skyline Road Kettleman City, CA	199 Miles

## OFFSITE LAND DISPOSAL FACILITIES

Based on the results of the waste profiling sampling, the excavated soil will be transported to an appropriate recycling and/or land disposal facility. The District or Remediation Contractor shall comply with LBUSD “Environmental Export Materials Testing” specifications. Likely disposal facilities have been discussed above. If a comparably licensed, and LBUSD-approved, substitute facility is agreed upon with the LBUSD, this transportation plan can be amended.

Compliance with the land disposal restrictions and land ban requirements for California hazardous wastes, as necessary, will be documented and provided to DTSC.

## RECORDKEEPING

The District or subcontracted Environmental Professional will be responsible for maintaining daily reports during the removal action activities. The daily reports will serve to document observations, personnel onsite, truck arrival and departure times, and other vital project information.

## CONTINGENCY PLAN

Waste haulers are required to have a contingency plan prepared for emergency situations (e.g., vehicle breakdown, accident, waste spill, waste leak, fire, foundering, and explosion) during transportation of excavated soils from the Site to the designated disposal facility.

## HEALTH AND SAFETY

### Health and Safety Plan

For planned soil removal actions, a site-specific HASP, prepared in accordance with 8 CCR 5192 (B), will also be prepared and implemented by the Remediation Contractor. The HASP should be reviewed by all workers prior to initiating any intrusive work performed at the Site. The HASP should incorporate the requirements specified by the HAZWOPER Standard (Title 8 CCR Section 5192), including but not limited to:

- A safety and health risk or hazard analysis for each site task;
- Employee training assignments;
- Personal protective equipment (PPE) to be used by employees for the site tasks and operations being conducted;
- Medical surveillance requirements;
- Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.
- Site control measures;
- Decontamination procedures;
- An emergency response plan for safe and effective responses to emergencies, including the necessary PPE and other equipment;
- Silica safety considerations
- Confined space entry procedures (as needed);
- A spill containment program; and
- Heat/cold stress consideration.

### Training Requirements

All personnel working on planned project activities, or visiting such activities, at the Site will, at a minimum, follow the health and safety requirements described in an approved site-specific Health and Safety Plan (HASP) for the Site, as well as the instructions of the designated Site Health and Safety Officer.

LBUSD personnel and LBUSD construction contractors likely to have contact with subsurface soil at the site are also required to have health and safety training. The training requirements are tiered, based on the likely exposure to soils and the types of completed tasks, and include either:

- 40 Hour HAZWOPER training with additional 8 Hour Supervisors Training
- 40 Hour HAZWOPER training,
- 24 Hour HAZWOPER training, or
- Hazard Communication training.

A more detailed description of the worker classifications and types of tasks that may be used as general guidance for the required tiers of training, is provided below.

All persons working on planned activities that involve Substantial Disturbance of the Site soil are required to have health and safety training as described below. Substantial Disturbance is not intended to include incidental surficial soil disturbances (such as during sporting activities, or raking leaves), but is intended to include activities involving excavation of soil more than a few inches below the surface (such as sprinkler repair, landscape planting, underground utility installation/repair, major construction activities, etc.).

Table 4.2.1 addresses training requirements when disturbing soil in areas with known impacts exceeding RGs (i.e. known Hot Spots). Table 4.2.2 subsequently addresses training requirements when disturbing areas with unknown impact or no known impacts exceed RGs.

TABLE 4.2.1 SOIL DISTURBANCE IN KNOWN AREAS EXCEEDING RGs (HOT SPOTS)					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
<b>1</b>	General site <b>workers</b> (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards.	X			
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>Planned soil excavation of hot spots (as identified in the RAP) which have not previously been removed.</li> <li>Planned removal of impacted soil in delineated hot spot areas (exceeding RGs) that is unexpectedly encountered in the future during a repair.</li> </ul>				
<b>2</b>	<b>Workers</b> on site only occasionally for a specific limited task (such as, but not limited to, monitoring, or surveying) and who may be exposed over Permissible Exposure Limits (PELs) and published exposure levels.		X		
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>Other professionals, consultants, qualified contractors or District personnel from the maintenance or facilities division that may need to be in the area(s) of hot spot activities to perform their work but will not be performing work that involves direct personal contact with the hazardous substances.</li> </ul>				
<b>3</b>	<b>Management and Supervisors:</b> On-site management and supervisors directly responsible for, or who supervise employees engaged in, HAZWOPER Operations.	X (With 3 days supervised field experience)			X*
<b>*</b>	<ul style="list-style-type: none"> <li>Management training at the time of job assignment to include, but not limited to, such topics as the employer's safety and health program and the associated employee training program, Personal Protective Equipment (PPE) program, spill containment program, and health hazard monitoring procedure and techniques.</li> </ul>				

TABLE 4.2.1					
SOIL DISTURBANCE IN KNOWN AREAS EXCEEDING RGs (HOT SPOTS)					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
4	Those skilled support personnel, such as employees who work for public works departments or the District or equipment operators who operate bulldozers, sand trucks, backhoes, or who use a shovel, etc., who may be called to the incident scene to provide temporary emergency support assistance.	X			
EXAMPLE	<ul style="list-style-type: none"><li>Emergency workers that might disturb the soil (e.g. firefighters clearing brush, utility company doing emergency line repairs, etc.).</li><li>Various specifically trained district maintenance or repair workers that will be operating equipment used to perform the digging up subsurface lines for repair/maintenance.</li></ul>				
References - 8 CCR 5192 HAZWOPER Standard; 8 CCR 5194 Hazard Communication Standard (including COCs onsite – 8 CCR 5214 Inorganic Arsenic, 8 CCR 1532.1 Lead, Dioxins, PAHS)					

TABLE 4.2.2					
SOIL DISTURBANCE IN AREAS WITH UNKNOWN IMPACTS or NO KNOWN IMPACTS EXCEEDING RGs					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
1	General site <b>workers</b> (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards.	X  Should such work be planned			
EXAMPLE	<ul style="list-style-type: none"> <li>Removal of impacted soil (exceeding RGs) that is unexpectedly encountered in the future.</li> </ul>				
2	<b>Workers</b> on site only occasionally for a specific limited task (such as, but not limited to, monitoring, or surveying) and who may be exposed over PELs and published exposure levels.		X  Should such work be planned		
EXAMPLE	<ul style="list-style-type: none"> <li>Other professionals, consultants, qualified contractors or District workers that may need to be in the area(s) of planned soil removal to perform their work, but will not be performing work that involves direct personal contact with</li> </ul>				



<p align="center"><b>TABLE 4.2.2</b></p> <p align="center"><b>SOIL DISTURBANCE IN AREAS WITH</b></p> <p align="center"><b>UNKNOWN IMPACTS or NO KNOWN IMPACTS EXCEEDING RGs</b></p>					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
	<p>the hazardous substances.</p> <ul style="list-style-type: none"> <li>Note: In the event RGs are exceeded in these work areas, personnel will be required to have an additional 16 hours of HAZWOPER training to continue to work in these areas.</li> </ul>				
<b>3</b>	<b>Workers</b> regularly on site who work in areas that have NOT been fully assessed or remediated (probably due to access limitations) but have likely exposure.		X		
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>Workers and construction managers during future building renovations or construction in areas with high potential for contact with hazardous substance impacted soils.</li> </ul> <p><b>NOTE: The number of workers that may need this level of training to be limited to a specific group of workers allowed to perform the specific soil impact work associated with other possible specialty trade work and include some district maintenance or repair workers having to dig up subsurface lines for repair/maintenance. These workers should be monitored to document any potential exposures or negative exposures and should be provided with hand and face washing facilities.</b></p> <p>Note: In the event RGs are exceeded in these work areas, personnel will be required to have an additional 16 hours of HAZWOPER training to continue to work in these areas.</p>				
<b>4</b>	<b>Workers/Visitors</b> on site only occasionally for a specific limited task (such as specific trade personnel) or will be visiting in areas that have been monitored and/or characterized as areas with possible contaminants of concern.			X	
<b>EXAMPLE</b>	<ul style="list-style-type: none"> <li>District Env. Management staff or their counsel observing various activities at the site but not entering controlled work area(s).</li> <li>Specially trained trades personnel on site for specific tasks within controlled work areas.</li> </ul> <p><b>NOTE: Such personnel will require either a 24 hour HAZWOPER trained employee to perform soil related work prior to their assigned task or will require a knowledgeable escort with the visitor during the site visit.</b></p>				
<b>5</b>	<b>Management and Supervisors:</b> On-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations – <b><u>SHOULD SUCH WORK BE PLANNED.</u></b>	X  (With 3 days supervised field experience)			X*
<b>*</b>	<ul style="list-style-type: none"> <li>Management training at the time of job assignment to include, but not limited to, such topics as the employer's safety and health program and the associated employee training program, PPE program, spill containment program, and health hazard monitoring procedure and techniques.</li> </ul>				

TABLE 4.2.2					
SOIL DISTURBANCE IN AREAS WITH					
UNKNOWN IMPACTS or NO KNOWN IMPACTS EXCEEDING RGs					
Category	Worker Classifications	40 Hour HAZWOPER Training	24 Hour HAZWOPER Training	Hazard Communication Training Only <sup>1</sup>	8 Hours Additional Supervisors Training
6	Those skilled support personnel, such as employees who work for public works departments or the District or equipment operators who operate bulldozers, sand trucks, backhoes, or who use a shovel, etc., who may be called to the incident scene to provide temporary emergency support assistance.			X	
EXAMPLE	<ul style="list-style-type: none"><li>Emergency workers that might disturb the soil (firefighters clearing brush, utility company doing emergency line repairs, etc.).</li><li>Various specifically trained district maintenance or repair workers that will be operating equipment used to perform the digging up subsurface lines for repair/maintenance</li></ul> <p><b>NOTE: During the Haz. Com. Training it should be recommended that these workers be monitored to document negative exposure and be provided with hand and face washing facilities. As a precaution to first responders/emergency personnel from regulating agencies, the SMP should be included in the Business Plan that is submitted to the CUPA as part of the California Environmental Reporting System.</b></p> <p>Note: In the event RGs are exceeded in these work areas, personnel will be required to have 40 Hours of HAZWOPER training to continue to work in these areas.</p>				
References - 8 CCR 5192 HAZWOPER Standard; 8 CCR 5194 Hazard Communication Standard (including COCs onsite – 8 CCR 5214 Inorganic Arsenic, 8 CCR 1532.1 Lead, Dioxins, PAHS)					

<sup>1</sup> Elements of Hazard Communication - Employers (including host/controlling employers) are to provide information to employees about the hazardous chemicals to which they may be exposed. Applicable training can be provided by others besides the specific employer, but the current employer and the site controlling employer can still be cited if an employee working on the site is not adequately trained.

Hazard Communication Training shall include information that covers the requirements as outlined in the regulations for Hazard Communication (8 CCR 5194), and Lead (8 CCR 1532.1). Arsenic has not been included, as preliminary calculations have indicated no likely exposure exceeding the Arsenic action level. Major elements of the Hazard Communication shall include:

- Information on the operations in their work areas where hazardous chemicals are present and any operations that could result in exposure to a hazardous chemical contaminants of concern (COCs) that may be above an action level.
- Identification of the location and availability of their employer's hazard communication program as well as any site-specific compliance plans and site related Safety Data Sheets appropriate to the COCs.
- Information on methods, procedures, or controls (e.g. any engineering or work-practice controls) that have been used or may be in place to reduce or eliminate exposure to COCs (e.g. Dust Control measures).
- If appropriate, information related to possible Personal Protective Equipment (PPE) that may be necessary or used.

- Methods or observations that have been or may/will be used to detect and protect employees from exposure to hazardous chemicals in the work area (e.g. employee air monitoring, direct reading area monitors, hand / face washing procedures).
- The employee's right to access records in accordance with 8 CCR Section 3204 (e.g. monitoring records) should be provided to the Director and Environmental Health and Safety Manager of Maintenance and Operations or their designee(s).






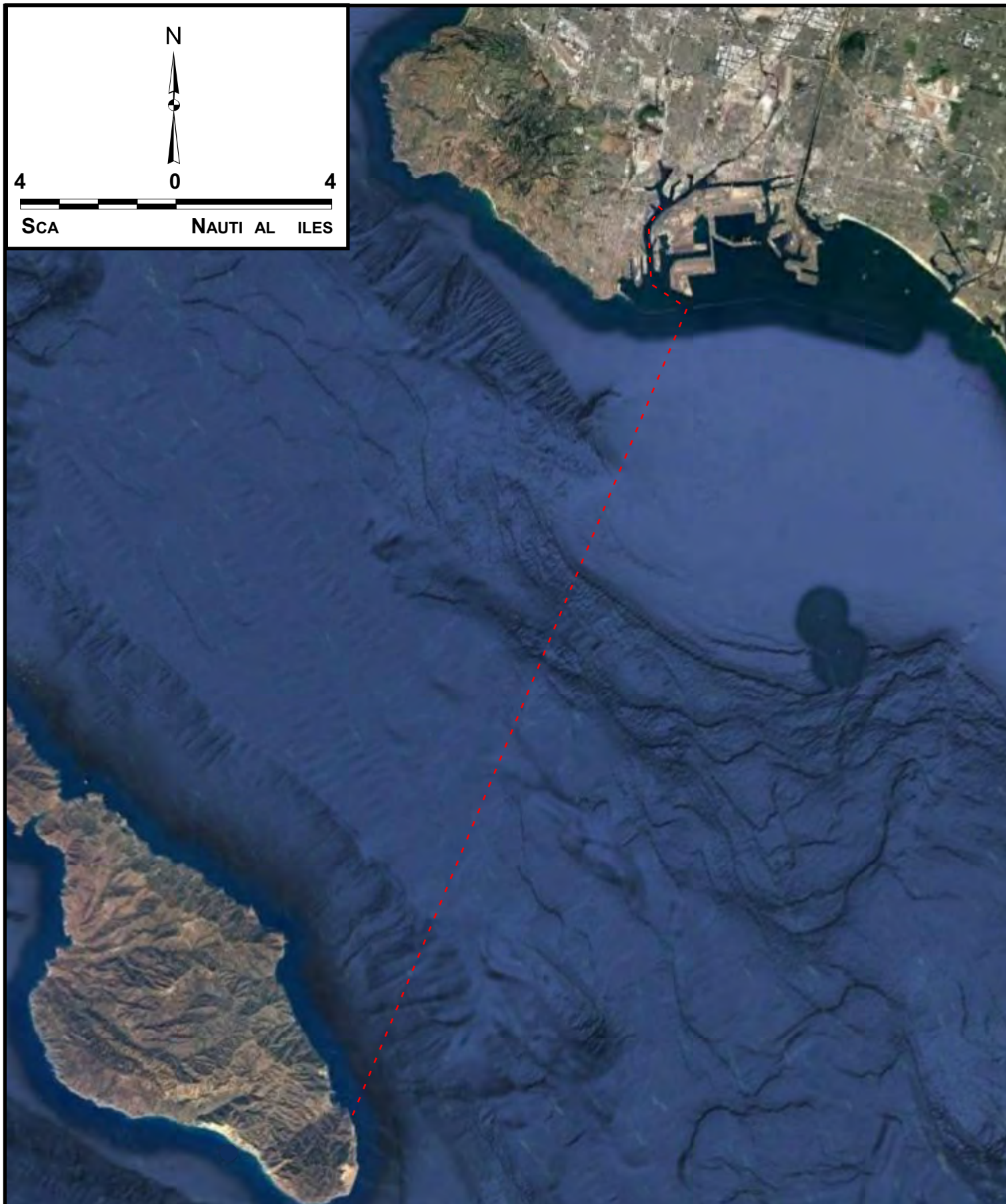
Proj:12441.001 S	Eng/Geol: RBHS
Scale: 1"=500'	Date: April 2020
Drafted by: ZAFS	Checked by: ZAFS

**TRANSPORATION ROUTE MAP - ISLAND SEGMENT**  
LBUSD Avalon School Soil Management Plan S  
200 Falls Canyon Road S  
Avalon, CaliforniaS

FIGURE 1S

  
LeightonS





Proj: 12441.001

Eng/Geolf RBH f

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Date: April 2020

Drafted By: ZAFf

Image: Googlef

## TRANSPORATION ROUTE MAP MARITIME SEGMENT

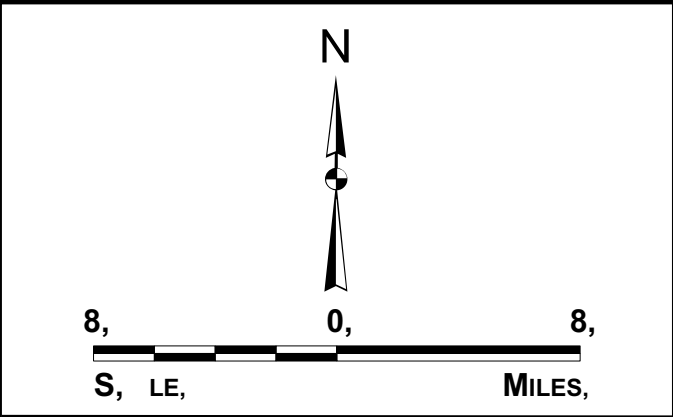
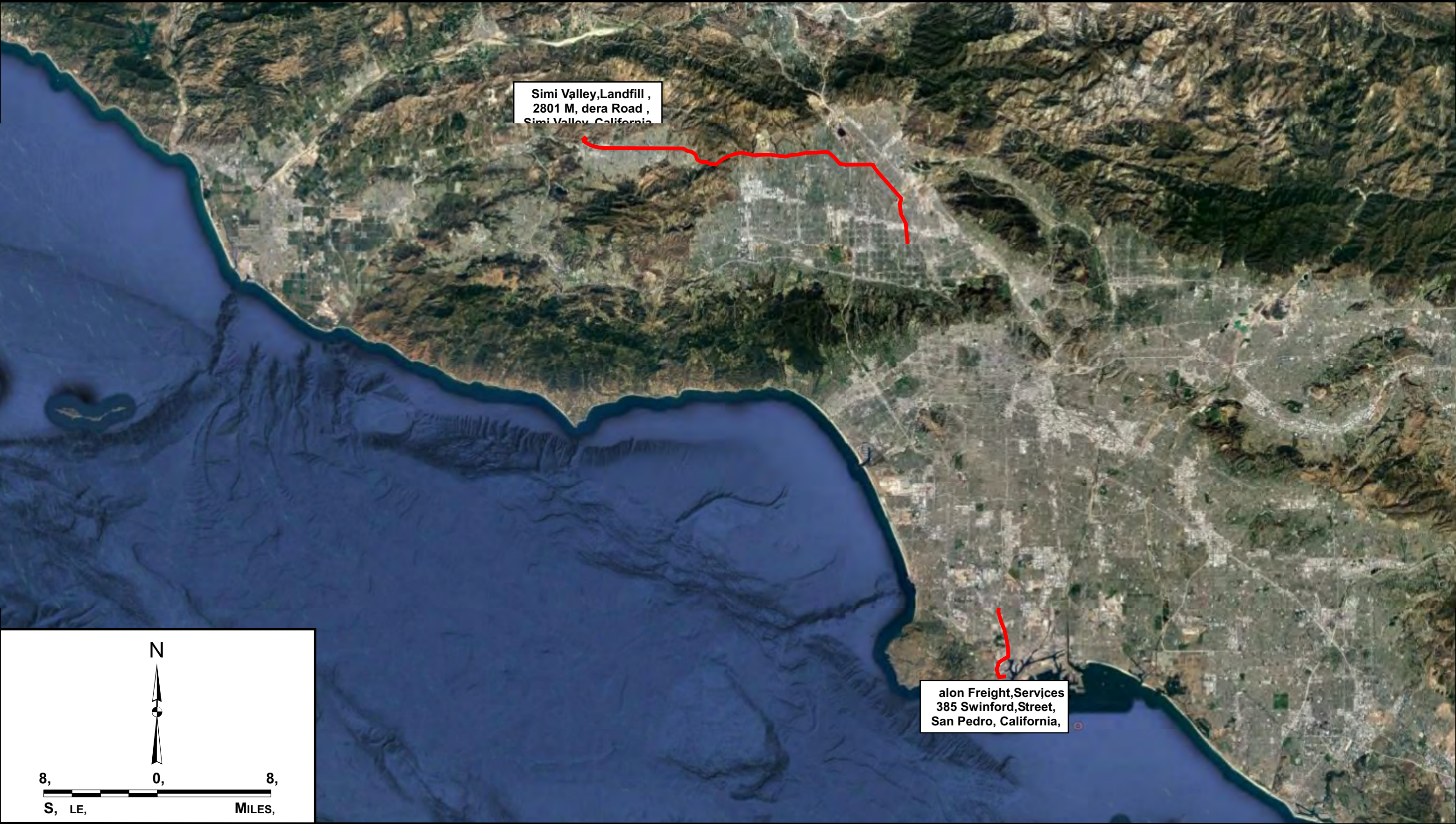
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FIGURE 2f



Leightonf






Proj: 12441.001	Eng/Geol: RBHS
Scale: 1 : 400,000	Date: April 2020
Drafted by: ZAFS	Checked by: ZAFS

**TRANSPORTATION ROUTE MAP MAINLAND SEGMENT SIMI VALLEY LANDFILL**  
LBUSD Avalon School Soil Management Plan S  
200 Falls Canyon Road S  
Avalon, CaliforniaS

FIGURE 3S

  
LeightonS






Proj: 12441.001	Eng/Geol: RBHS
Scale: 1 : 1,800,000	Date: April 2020
Drafted by: ZAFS	Checked by: ZAFS

**TRANSPORTATION ROUTE MAP MAINLAND SEGMENT KETTLEMAN HILLS**  
LBUSD Avalon School Soil Management Plan S  
200 Falls Canyon Road S  
Avalon, CaliforniaS

FIGURE 4S

  
LeightonS





Legend

Sample Location with Lead RG Exceedance at ≥5 ft bgs

Sample Location with Arsenic RG Exceedance at ≥5 ft bgs

Sample Location with PAH BaP-Eq RG Exceedance at ≥5 ft bgs

Former SCICo Employee Housing

Operable Unit Boundary

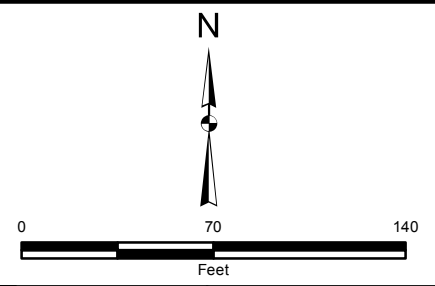
Phase 1 Areas of Prior Soil Removal

- Notes:
- 1) Base map downloaded from United States Geological Survey, dated December 2013.

2) Figure provided by EEC Environmental 2017, "Human Health Risk Assessment Report for Avalon K-12 School Property and City of Avalon Warehouse Property, 200 and 661 Falls Canyon Road, Avalon, California, 90704, Site Code 404868", 13 January.

3) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.

4) RG = remedial goal; ft bgs = feet below ground surface; PAH = polycyclic aromatic hydrocarbons; BaP-Eq = Benzo(a)Pyrene equivalent.



Project: 12441.001	Eng/Geol:KRL/RH
Scale: 1 " = 70 '	Date: August 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

OU-1 LOCATIONS/AREAS WITH RG EXCEEDANCES ≥5 FEET BGS

Avalon K-12 School Property  
Avalon, California

Figure 9







Notes:

1) Base map downloaded from United States Geological Survey, dated December 2013.

2) Figure provided by EEC Environmental 2017, "Human Health Risk Assessment Report for Avalon K-12 School Property and City of Avalon Warehouse Property, 200 and 661 Falls Canyon Road, Avalon, California, 90704, Site Code 404868", 13 January.

3) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.

4) RG = remedial goal; ft bgs = feet below ground surface; PAH = polycyclic aromatic hydrocarbons; BaP-Eq = Benzo(a)Pyrene equivalent.

Project: 12441.001	Eng/Geol:KRL/RH
Scale: 1" = 70'	Date: August 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

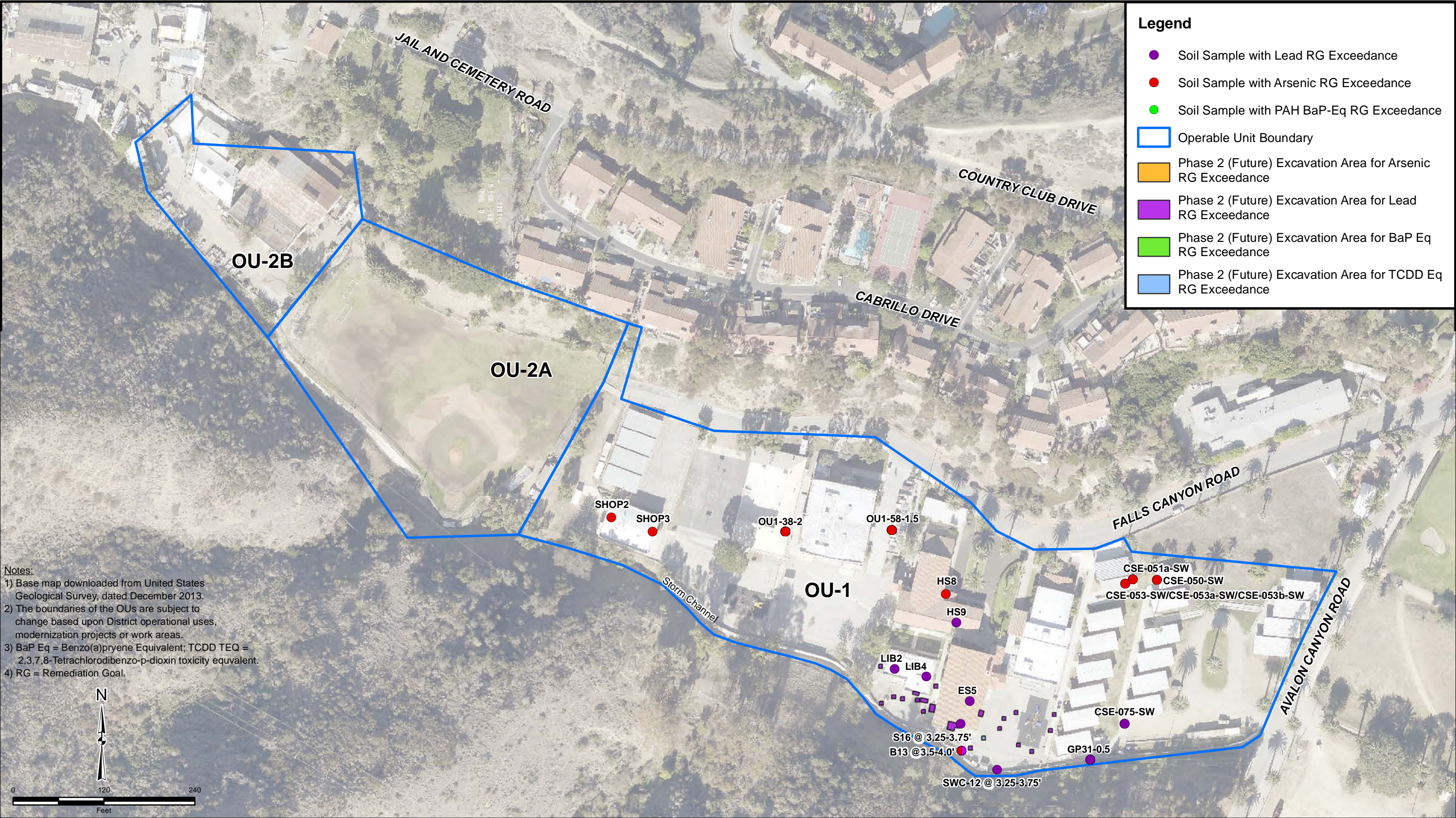
OU-2A LOCATIONS/AREAS WITH RG EXCEEDANCES ≥5 FEET BGS

Avalon K-12 School Property  
Avalon, California

Figure 10







Notes:

- 1) Base map downloaded from United States Geological Survey, dated December 2013.
- 2) The boundaries of the OUs are subject to change based upon District operational uses, modernization projects or work areas.
- 3) BaP Eq = Benzo(a)pyrene Equivalent; TCDD TEQ = 2,3,7,8-Tetrachlorodibenzo-p-dioxin toxicity equivalent.
- 4) RG = Remediation Goal.

Project: 12441.001	Eng/Geol:KRL/RH
Scale: 1" = 120'	Date: August 2020
Base Map: Esri ArcGIS Online, 2019. Floor Plan: N/A Author: Leighton Geomatics (avr)	

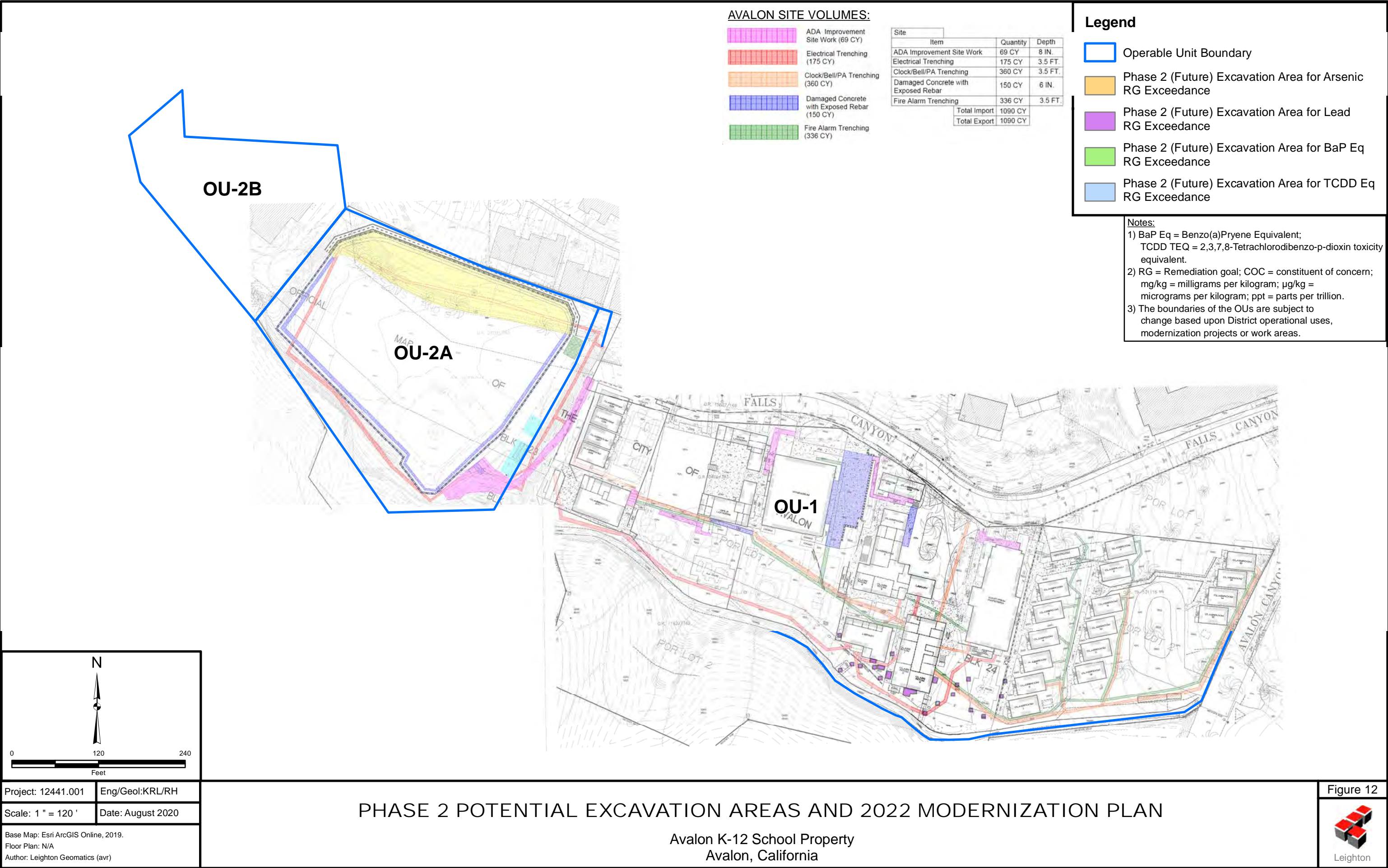
OU-1 & OU-2A KNOWN RG EXCEEDANCES <5' FEET BGS (MOST BENEATH/ADJOINING BUILDINGS)

Avalon K-12 School Property  
Avalon, California

Figure 11





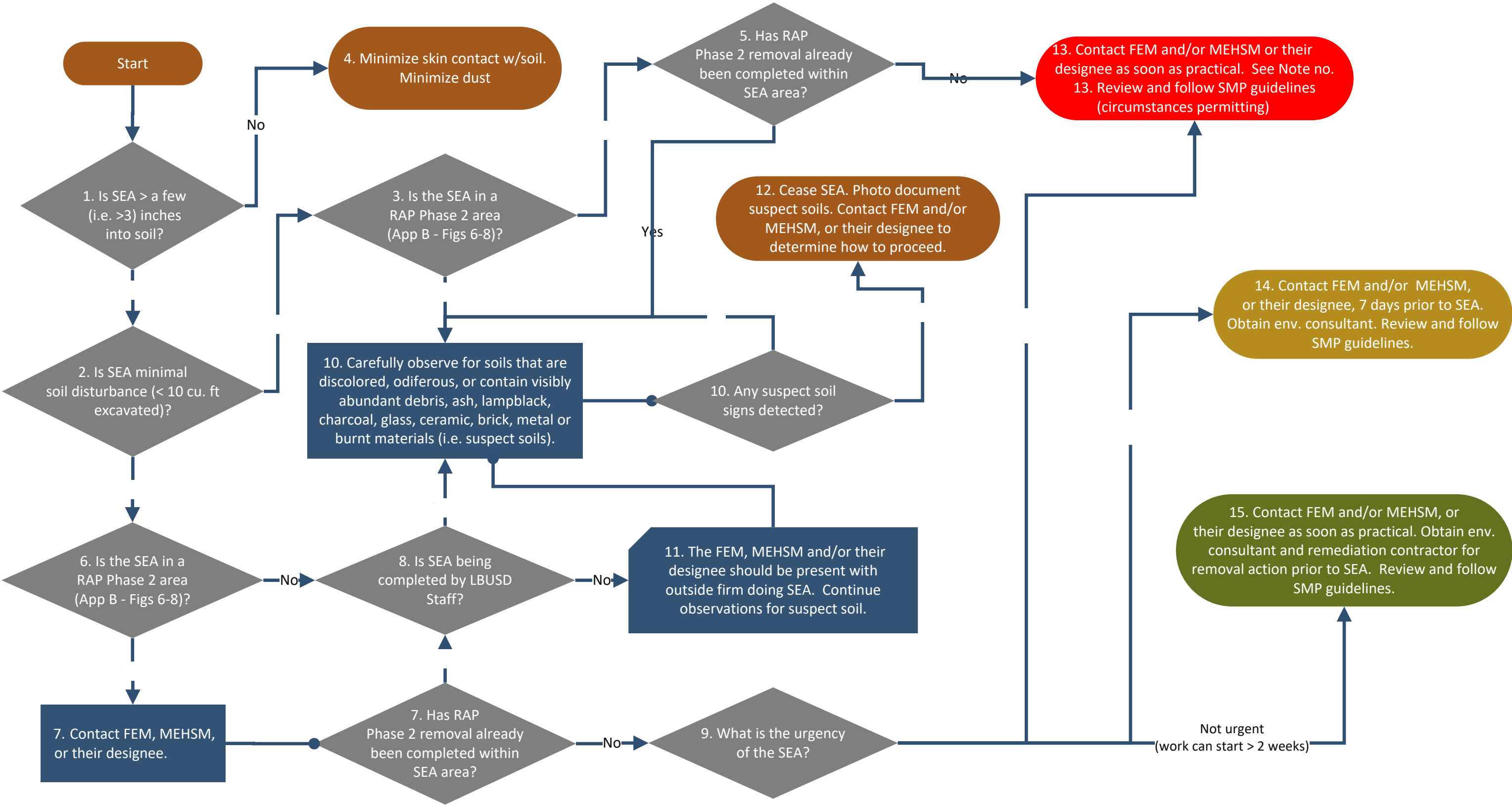


Common Abbreviations:

SEA = Soil Excavation Activity  
RAP = Remedial Action Plan  
(2019 DTSC approved)  
FEM = Facilities Env. Manager  
MEHSM = Maintenance Environmental  
Health and Safety Manager

SOIL MANAGEMENT PLAN (SMP) SUMMARY DECISION TREE

This Decision Tree is a highly simplified summary of actions to take when investigating whether to perform, or performing activities, that will disturb the soil. This Decision Tree is not a comprehensive SMP, should not be relied upon as such, and should be used in conjunction with the SMP which contains additional details and explanations. In the case of a potential conflict between this Summary Decision Tree and the remainder of the SMP, the remainder of the SMP shall govern and control.





**Jared Blumenfeld**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

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Meredith Williams, Ph.D., Director  
5796 Corporate Avenue  
Cypress, California 90630



**Gavin Newsom**  
Governor

August 28, 2020

Mr. Timothy Wood, PG. CHG.  
Principal Geologist  
GSI Environmental  
19200 Von Karman Avenue, Suite 800  
Irvine, California 92612

APPROVAL OF SOIL MANAGEMENT PLAN FOR OU-1 (MAIN SCHOOL CAMPUS)  
AND OU-2A (BALLFIELD), AVALON K-12 SCHOOL PROPERTY, AVALON  
(SITE CODE: 404868)

Dear Mr. Wood:

The Department of Toxic Substances Control (DTSC) has reviewed the Revised Soil Management Plan (SMP) for OU-1 (Main School Campus) & OU-2A (Ballfield) at Avalon K-12 School Property site (School). The SMP, dated August 6, 2020 and received via e-mail on August 10, 2020, was prepared by Leighton Consultant, Inc. The SMP was revised in response to DTSC comments forwarded in an email dated June 29, 2020. The SMP is intended to guide soil disturbance activities in areas under the land use restriction at the School.

The School, located at 200 Falls Canyon Road in the City of Avalon, California, is approximately 11.6 acres and has been developed with a kindergarten through 12<sup>th</sup> grade (K-12) school and is separated into an elementary school and high school, with associated facilities. Numerous investigations have been conducted at the School and encountered varying depths of fill material around the School Property buildings. The investigation results indicate that, in general, the School is underlain by fill material or re-worked alluvium by the presence of brick fragments in numerous soil borings extending to depths of 10 feet. These investigations indicated that soils were impacted by several chemicals of concern, including metals, dioxin, and polycyclic aromatic hydrocarbons, at the School. Several localized remedial actions were performed at the School between 2005 to 2014.



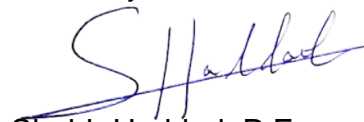
The Remedial Action Plan (RAP) (GSI Environmental, 2019) specify remedial action objectives, evaluates alternatives, and describes the remedial alternative selected for the School and Warehouse property adjacent to the School. The objective of the RAP is to mitigate potential risk to human health and the environment by removing approximately 475 cubic yards of impacted soil, cap impacted soil remaining in place, and execute a Land Use Covenant (LUC)/SMP for the capped areas. DTSC approved the RAP on August 16, 2019.

The RAP was implemented on the School between August 5, 2019 through August 23, 2019 at the School. Approximately 363 cubic yards of soils were excavated and disposed of at off-site facilities. All excavated areas were backfilled with imported clean fill, concrete mixers, and/or sand slurry. To date, the RAP has not been implemented at the Warehouse property. DTSC approved the Remedial Action Completion Report (GSI Environmental, 2020) for the School on April 15, 2020 .

Based on its review, DTSC comments were adequately addressed in the SMP, and therefore DTSC hereby approves the SMP. The SMP will be incorporated by reference into the LUC for the School. Preparation of the LUC for the School by DTSC is underway.

If you have any questions, please contact Mr. Joe Hwong, Project Manager, at (714) 484-5449 or by e-mail at [Joe.Hwong@dtsc.ca.gov](mailto:Joe.Hwong@dtsc.ca.gov), or contact me at (714) 484-5368 or by e-mail at [Shahir.Haddad@dtsc.ca.gov](mailto:Shahir.Haddad@dtsc.ca.gov).

Sincerely,



Shahir Haddad, P.E.  
Supervising Engineer  
Brownfields Restoration and School Evaluation Branch  
Site Mitigation and Restoration Program

mv/jh/sh

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Mr. Timothy Wood  
August 28, 2020  
Page 3

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Mr. Timothy Wood  
August 28, 2020  
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Brownfields Restoration and School Evaluation Branch Reading File - Cypress