INTERIM MEASURES WORK PLAN
EXIDE TECHNOLOGIES
VERNON, CALIFORNIA

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Vernon, California

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Project No. 2013-3007-07
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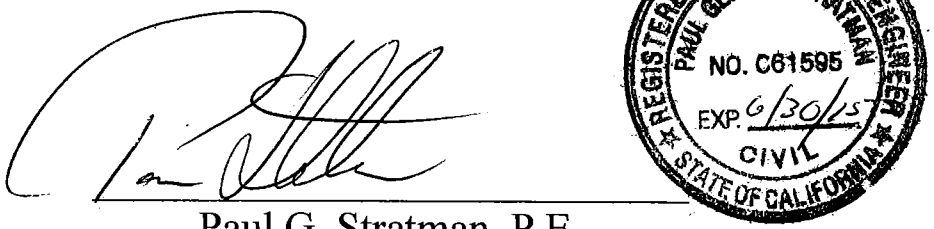

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1.0 INTRODUCTION

On March 10, 2014 the State of California Environmental Protection Agency (Cal/EPA)/Department of Toxic Substances Control (DTSC) issued a letter to Exide Technologies (Exide) referenced as *DTSC Review of February 18, 2014 Off-Site Soil Sampling Report and Order, Exide Technologies, Vernon, CA (Stipulation and Order, Docket HWCA P3-12/13-010, OAH No. 2013050540, and Corrective Action Consent Order, Docket No.:P3-01/02-010).* In that letter, DTSC directed Exide to submit work plans and respond to comments by March 21, 2014 that address the items discussed, including the review comments from the DTSC Human Health and Ecological Risk Office (HERO) and the DTSC Geological Services Unit (GSU).

This document was prepared by Advanced GeoServices Corp. (Advanced GeoServices), on behalf of Exide, and represents the Interim Measures Work Plan (IMWP) requested by DTSC. Responses to the GSU and HERO comments and an Expanded Soil Sampling Work Plan have been prepared independently from this document and have been submitted under separate cover by Advanced GeoServices.

2.0 BACKGROUND

The Exide Technologies' Facility is located at 2700 South Indiana Street in the City of Vernon, California, as shown on Figure 1. The property occupies a total area of approximately 15 acres, which is bounded by East 26th Street towards the north and Bandini Boulevard (Bandini) towards the south. The facility is an operating battery recycling facility and is characteristic of the heavy industrial nature of the surrounding land uses.

In November 2013, Exide, (through its contractors, Advanced GeoServices Corp. and ENVIRON International Corporation) with oversight by DTSC, conducted soil sampling at residential properties in the general vicinity of the facility, at two area schools and in a background area located about 14 miles to the south of the facility. The purpose of the sampling was to determine whether off-site residential soils had concentrations of selected constituents that were greater than a selected background area or residential screening values. Only the data from the residential properties in the general vicinity of the Exide facility are germane to the Interim Measures presented herein.

Sampling took place in residential areas determined by DTSC based on previously approved air modeling. The Northern Assessment Area for soil sampling, located in Boyle Heights and East Los Angeles, was established based on the predicted maximum exposed individual resident (MEIR) for arsenic emissions, while the Southern Assessment Area, located in Maywood, was based on the predicted MEIR for lead emissions.

Nineteen properties were sampled in the Northern Assessment Area, and twenty properties were sampled in the Southern Assessment Area. Samples were taken from three depth intervals, 0 to 1 inch, 1 to 3 inches and 3 to 6 inches below the ground surface, and the samples analyzed for up to 24 constituents selected by DTSC. The results were compared to the results from the Background Area, and U.S. Environmental Protection Agency (USEPA) and DTSC soil screening levels.

Lead concentrations in the soil were found to be above the DTSC Residential Soil Screening Value of 80 mg/kg. The comparison of results did not attempt to attribute observed concentrations to specific sources, although it is recognized that due to the heavily industrialized and densely populated nature of the area, multiple contributors, both existing and historic, exist. DTSC has ordered Exide to submit this Work Plan to perform *"Interim Measures under the 2002 Corrective Action Consent Order to mitigate the potential threat from exposure to lead at those properties in the Northern and Southern Assessment Areas with lead concentrations exceeding 80 mg/kg where children and/or pregnant women are occupants. This Work Plan should address those additional properties in the Northern and Southern Assessment Areas where concentrations of lead found in soils may represent a potential threat to human health and the environment."*

2.1 SUBJECT AREA

The areas subject to Interim Measures are designated as the Northern and Southern Assessment Areas as defined in the February 18, 2014 report. The Northern Assessment Area is centered on South Indiana Street from Union Pacific Avenue to the south and extending northwards towards Olympic Boulevard. The eastern and western limits of the Northern Assessment Area are South Alma Avenue and La Puerta Street, respectively. The Southern Assessment Area is bordered on the west by South Maywood Avenue and extends eastwards between East 52nd and East 54th Streets to Everett Avenue. It will also incorporate residential properties on the north side of East 52nd Street and south side of 54th Street.

3.0 PROPOSED INTERIM MEASURES

3.1 NOTIFICATION

Exide will develop a notification letter for delivery to all residential addresses along La Puerta Street, South Indiana Street, and South Alma Avenue between Union Pacific Avenue and Olympic Boulevard and along East 52nd Street, East 53rd Street and East 54th Street between South Maywood Avenue and Everett Avenue. The letter will inform the residents that soil testing has identified properties on their block with lead concentrations above DTSC's Residential Soil Screening Level of 80 mg/kg. The notification will emphasize that 80 mg/kg is a screening level and that as intended by the regulations, Exide is working with DTSC to complete additional/investigation/evaluation that will produce an appropriate action level. The notification will include contact names for DTSC, Exide and Advanced GeoServices for any related questions regarding the information provided.

Attached to the letter will be information about typical routes of entry for lead, lead risks for small children and measures the residents can follow to ensure that they and their families are not affected by the levels present in the soil. These measures will include washing hands before eating or smoking, washing their children's hands after playing in the yard and eating a healthy diet.

Blood lead testing will be offered to occupants of the residences of the Northern and Southern Assessment Areas as part of the existing blood lead testing program developed by Exide and the Los Angeles County Department of Public Health. The notification letter and supplemental information will be submitted to DTSC for review prior to issuing.

3.2 COLLECTION OF DEMOGRAPHIC INFORMATION

As part of the expanded soil sampling program presented separately as an Addendum to the November 15, 2013 Work Plan for Off-Site Soil Sampling, demographic information will be collected on the occupants of the 39 properties that were previously sampled, including

information on the ages of children residing in the house as well as any pregnant women or women of child bearing age. A lead-based paint inspection will be conducted and an assessment of the condition of the property, including the presence of bare soil areas, made by the certified lead-based paint inspector in order to address lead hazards in the homes as part of the education process.

3.3 FOCUSED RESIDENCE ASSESSMENT

After the results of the additional soil sampling, the lead-based paint inspection and condition assessment, and the collection of demographic information are obtained on the 39 properties, Exide proposes to conduct a focused residence assessment on a property where young children (under six years of age) and pregnant women are identifiable as occupants in which all of the information will be reviewed along with input from DTSC to determine whether there are additional interim measures to be taken at the property. Such measures could include development of additional educational materials, covering of bare soils, recommendations for paint stabilization by the homeowner or changes in children's play areas to avoid lead based paint hazards, HEPA vacuuming, etc. A meeting would be held with the property owner to discuss the measures prior to them being implemented.

3.4 SOIL REMOVAL

During the Off-Site Soil Sampling event, two properties were identified with lead concentrations above the California Department of Public Health (CDPH) defined hazard level for bare soils where children play of 400 mg/kg. The CDPH defined hazard level of 400 mg/kg lead will be used as a trigger for soil removal as an Interim Measure until a risk assessment and final action level is determined. For confidentiality reasons, this Work Plan does not include any details about the specific properties that will undergo soil removal.

3.4.1 Permitting

Required permits pertaining to excavation and traffic control will be obtained prior to mobilization to the site. DTSC approval of this Work Plan constitutes that DTSC will ensure that all permitting necessary for the conduct of the work will be expedited and approved in order for the work to be performed.

3.4.2 Access

Exide will solicit access from the property owner to perform soil removal. The access agreement will include statements from Exide to the property owner, that there will be no costs to them for the work and that the property will be restored to its original or better condition following soil removal.

3.4.3 Property Photo-Documentation

Exide will document the existing conditions of the properties by use of photographs and possibly video recording in order to restore the properties to their original condition following soil removal.

3.4.4 Removal Limits

The properties scheduled for removal will be prioritized in the soil sampling event discussed in the accompanying Addendum to the November 15, 2013 Off-Site Soil Sampling Work Plan such that the analytical data is obtained quickly and removal limits can be determined. The samples will also be tested for any additional analytical parameters that may be required by the disposal facility. This information will be used to guide the removal contractor hired by Exide to perform the work and to determine the appropriate disposal facility for the excavated soils. The final depth of the excavation will be based on the proposed discrete sampling but is expected not to exceed 12 inches.

3.4.5 Erosion Control

In order to prevent any sediment from leaving the work area during soil disturbance activities, silt socks will be used on the perimeter of the property as needed. Additionally, inlet control devices will be utilized in case of a rainfall event. Actual erosion control devices will be proposed by the Contractor performing the work.

3.4.6 Excavation

The removal areas will be excavated by the Contractor to a depth as dictated by the discrete soils sampling information. Areas within the critical root zone of trees or other vegetation will be excavated to a maximum depth of six inches in order to preserve their integrity and survivability. Excavations will be conducted using small construction equipment proposed by the Contractor (e.g., mini-excavator, skid steers). Hand excavations will be conducted in close proximity to structures, utilities, mature trees or other areas, as needed, that would be difficult to excavate around or that may become damaged by equipment. Soil removal will not be performed beneath structures, roads, sidewalks, brick patios, driveways or other inaccessible or permanent features. Excavations against houses, garages, outbuildings, driveways, sidewalks, and patios will be limited to six inches and slope downward from a one foot offset from the structure as necessary. Under decks or other areas inaccessible by residents, no removal is planned.

3.4.7 Disposal of Excavated Soils

The contractor will select the appropriate disposal facility based on the pre-removal sampling. The trucks will proceed directly to the disposal facility after loading and decontamination.

3.4.8 Confirmation Sampling

Vertical and horizontal limits of excavation will be defined during the discrete soil sampling event. Therefore, no confirmation sampling will be performed. Backfill will be immediately placed following excavation limit verification to begin restoration as soon as possible.

3.4.9 Protection of Existing Structures

Throughout site preparation, removal, and restoration activities, the Contractor will implement procedures to protect existing property features from damage. Procedures will include safe working distances, warning tape, manual digging and temporary fencing and barriers. At the completion of work on a daily basis, and as necessary during the course of work, driveways and sidewalks will be cleaned using a dry method (e.g., brooms or air sweeping). If a wet method is necessary (e.g., power spray), the Contractor will ensure that the water is collected in a manner such that sediment is prevented from entering stormwater inlets or other structures. Any damage to public or private properties shall be addressed by the Contractor at no expense to the property owner or any other party.

3.4.10 Dust Suppression

The largest potential source of dust and emissions during the Site remediation will be the excavation and handling of material during soil removal. The following procedures will be implemented to control the generation and migration of dust during the excavation and handling of materials:

- Apply water directly to the active excavation prior to soil disturbance. Additionally, water will be applied during the truck loading operations, as appropriate.
- Promptly apply water to excavation or loading operations upon any observance of dust.
- Control dust during operation of trucks by not allowing material to be dropped from heights above the top rail of the truck body.
- Regularly inspect all rear gate seals and locking mechanisms on material transport vehicles in order to prevent spillage and dust production.
- Broom sweep and/or wash the trucks prior to leaving the loading areas to prevent the deposition of material.
- Clean up all spilled soil material within the loading area and work areas.

- Tarp all trucks used for off-site transport of materials.

3.4.11 Traffic Control

All excavated material will be transported via surface streets directly to the off-site disposal facility. Backfill will be transported directly to the residential property.

The Contractor will control vehicular traffic to make sure activities are performed safely and efficiently, and the Contractor and his personnel will remain cognizant of the highly intrusive nature of this work within residential neighborhoods. Speed limits will be established and enforced to minimize dust generation and maintain a safe environment for workers and local residents, including children. All trucks hauling excavated or backfill soil will be tarped during transportation.

3.4.12 Restoration

Structural soil fill material will be used to achieve backfill grades to within 3 inches of final grade for excavation areas that are 12 inches or greater. For 6-inch deep excavation areas, 6 inches of topsoil will be placed. Soil samples of any fill materials will be collected prior to use and submitted by the Contractor for laboratory analysis. The analysis will be compared to the DTSC Residential Screening Values. Soil fill materials will be free from roots and other organic matter, trash, debris, and stones larger than three inches in any dimension. Soil fill materials will be placed in loose lifts and compacted by mechanical methods.

Topsoil material will be a natural, friable soil with organic content of at least 2% and nutrients sufficient to sustain grass growth and free of any trash or other deleterious debris. The maximum particle size will be 3/4 inch and rocks greater than 1/8 inch shall not be greater than 5% total by weight. The Contractor will screen the topsoil, as required, so the maximum particle size is not exceeded. Topsoil samples will be collected prior to use and submitted by the Contractor for laboratory analysis, and the results will be compared to the DTSC Residential Screening Values as well as determining the appropriate soil nutrients and organic content.

Topsoil materials will be placed to an approximately 3-inch or 6-inch depth over the structural soil fill material. Once topsoil is placed, it shall be tilled to a depth of two inches for acceptance of seed or sod, fertilizer, and mulch.

All fill replacement areas and areas disturbed by soil removal operations will be uniformly smooth-graded to mimic the pre-excavation grades, except as necessary to permit adequate drainage with the notification and acceptance of the property owner. Grade control will be performed by the Contractor to confirm the appropriate grades and to make modifications as necessary.

The Contractor will apply a seed mix tolerant to the local conditions which will expedite initial turf and a more permanent native seed mixture for final grass of the restored areas. Straw mulch will be applied upon completion of seeding. The Contractor may opt to use a hydroseed mix which will consist of seed, fertilizer and mulch to protect the seed from erosion and predation. Erosion control devices will remain in-place until vegetation has been established in disturbed areas. The Contractor will be responsible for the turf establishment up to 90% of the total areas seeded. Alternatively, sod may be used for turf establishment.

The Contractor will also be responsible for returning to the yards after one month to replace eroded topsoil and to reseed or resod any bare areas that did not produce growth as well as remove the erosion and sedimentation control devices. Any turf which does not thrive under local conditions will be replaced and reseeded or the sod replaced.

3.4.13 Schedule

Notification of the residents will occur within 60 days of DTSC approval of the notification letter and attachments. Exide will mobilize a contractor to the site and perform the work within 90 days of determining the horizontal and vertical limits on the property, provided that permitting issues do not create schedule delays.

The schedule presented above provides a reasonable approach to the activities required by the DTSC while taking into consideration the proposed work and the number of reviews and approvals required to begin the work.

LEGEND:

- MEIR for LEAD
- MEIR for ARSENIC

GRAPHIC SCALE

0 1000 2000 4000

(IN FEET)

1 inch = 2000 ft.

ADVANCED GeoServices

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NORTHERN AND SOUTHERN ASSESSMENT AREAS AND SCHOOLS LOCATION PLAN INTERIM MEASURES WORK PLAN

PROJECT ENGINEER:	BLF	SCALE:	1" ~ 2000'
CHECKED BY:	KO	PROJECT NUMBER:	2013-3007
DRAWN BY:	KEZ	DATE: 3/21/14	FIGURE: 1

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