Date: November 2015

CLOSURE PLAN

EXIDE TECHNOLOGIES
VERNON, CALIFORNIA
(EPA ID NO. CAD 097 854 541)

Prepared For:

EXIDE TECHNOLOGIES
Vernon, California

Prepared by:

ADVANCED GEOSERVICES
West Chester, Pennsylvania

Revised by:

CALIFORNIA DEPARTMENT OF
TOXIC SUBSTANCES CONTROL

Project No. 2013-2993-21
February 13, 2014
Revised August 18, 2014
Revised September 30, 2014
Revised May 15, 2015
Revised July 28, 2015
Suggested Revisions November 30, 2015 (DTSC)

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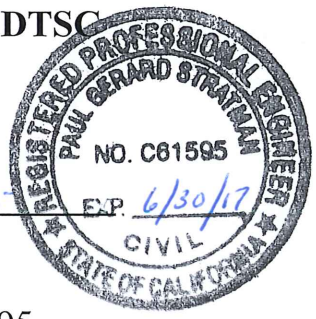

11/25/15

Paul G. Stratman, P.E.
Consultant
California P.E. No. C61595 Exp. 6/30/17

This Closure Plan contains certain edits required by the Department of Toxic Substances Control (DTSC). Exide Technologies and Advanced GeoServices believe some of the edits are technically and regulatorily inconsistent, and/or factually historically inaccurate. Exide and Advanced GeoServices have executed the required certifications with the understanding that these edits will be addressed through the public comment period.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACM	asbestos containing material
Advanced GeoServices, AGC	Advanced GeoServices Corp.
AHERA	Asbestos Hazard Emergency Response Act
ASTM	American Society for Testing and Materials
bgs	below ground surface
CA	Corrective Action
CACO	Corrective Action Consent Order
CalEPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
CEQA	California Environmental Quality Act
CHHSL	California Human Health Screening Level
CMS	Corrective Measures Study
COC	contaminant of concern
CSA	Container Storage Area
CWC	California Waste Code
cy	cubic yard
DHS	Department of Homeland Security
DTSC	California Department of Toxic Substances Control
ELAP	Environmental Laboratory Accreditation/Certification Program
F	fahrenheit
ft	feet
ft/ft	feet per foot
Gould	Gould, Inc.
gpm	gallons per minute
HASP	Health and Safety Plan
HDPE	high-density polyethylene
HEPA	high-efficiency particulate arrestance
HWMU	Hazardous Waste Management Unit
IS	Interim Status
LACSD	Los Angeles County Sanitation District
lbs	pounds
LUC	Land Use Covenant
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/kg	milligrams per kilogram
NL	NL Industries
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration

PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
POTW	Publicly Owned Treatment Works
PPE	personal protective equipment
ppm	parts per million
psi	pounds per square inch
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RL	Reporting Limit
RMPS	Raw Materials Processing System
RSL	Regional Screening Levels
RTO	regenerative thermal oxidizer
SCAQMD	South Coast Air Quality Management District
sf	square feet
STLC	Soluble Threshold Limit Concentrations
SVOC	semi-volatile organic compounds
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCLP	Toxicity Characteristic Leaching Procedure
TSD facility	treatment, storage and disposal facility
TTLC	Total Threshold Limit Concentrations
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
VOC	volatile organic compound
WBS	work breakdown structure
WET	Waste Extraction Test
WWTP	wastewater treatment plant

Date: November 2015

1.0 GENERAL

1.1 INTRODUCTION

This Closure Plan addresses the regulated Interim Status (IS) hazardous waste units (former IS units) at the Exide Technologies facility in Vernon, California. The closure information presented in this section is submitted under 22 CCR 66265.110, 66265.111 and 40 CFR 265 Subpart G, and applies to the former IS units shown on Table 1.1 of this Closure Plan. Detailed information regarding each unit can be found in Closure Plan Appendix D. This plan has been developed to meet the closure requirements of 22 CCR 66265.110 to .120, 66265.197, 66265.228, and 66265.1102 as applicable for closure of tank systems, container storage areas, surface impoundments, containment buildings, and miscellaneous units. This plan has also been developed in general accordance with California Department of Toxic Substances Control (DTSC) *Permit Writer Instructions for Closure of Storage and Treatment Facilities*. The closure and the post-closure care of all tank systems and containment buildings will also comply with CCR §66265.197 and §66265.1102, respectively.

Pursuant to the requirements of Title 22 CCR § 66265.111, the facility will close the units and appurtenant structures in a manner that:

(a) Minimizes the need for further maintenance.

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste constituents, leachate, contaminated rainfall or waste decomposition products to the ground or surface waters or the atmosphere.

(c) Complies with the closure requirements of 22 CCR 66265.197 (Tank Systems), 22 CCR 66265.310 (Landfills), 22 CCR 66265.1102 (Containment Buildings), and 22 CCR 66265.228 (Surface Impoundments).

The methods to be used to ensure compliance with this performance standard are presented in the following sections.

Exide previously submitted a Part B Permit Application for the facility. On April 7, 2015, Exide withdrew the Part B Permit Application and provided DTSC with written notification of its intent to close the Vernon facility. This revised Closure Plan is submitted in accordance with 22 CCR 66265.112(d), and reflects the current status of facility inventory and additional detail for closure sequence, methods and performance standards. Upon approval of the Closure Plan by DTSC, Exide will have up to 30 days to begin implementation per the amended 2014 Stipulation and Order between DTSC and Exide. A copy of the approved plan and all revisions to the plan will be kept at the facility until closure is completed and certified in accordance with 22 CCR 66265.115.

1.2 CLOSURE AND CORRECTIVE ACTION

This Closure Plan includes the following:

- Phase 1 – Closure;
- Phase 2 – Contingent Closure;
- Post-Closure; and,
- Contingent Post-Closure.

Phase 1 generally includes inventory removal, unit decontamination and removal, soil and surface sampling, and decontamination and deconstruction of buildings containing former IS units to grade. Phase 2 generally includes addressing below-grade impacts from unit operations. The scope of Phase 2 is dependent on the sampling data generated during Phase 1 and may be influenced by data generated during the RCRA Facility Investigation (RFI) and Corrective Action (CA) process. A range of Phase 2 options are described in this document. The Phase 2 option is presumed to represent a "reasonable worst case" scenario. "Reasonable worst case"

means that, based on the available information, it is expected to be the most expensive contingent closure option and will cause the greatest negative impact to community health and the environment. The reasonable worst case assumes up to 5 feet of soil excavation and removal will be performed beneath all former IS units, and that a multi-media cap with long-term care and maintenance requirements will be constructed over nearly all of the closed unit areas. "Reasonable worst case" for Phase 2 does not necessarily represent the contingent closure scenario that will in fact be implemented.

The Closure Plan addresses potential impacts from hazardous waste management units. The Closure Plan does not include other areas of the facility with impacts being addressed under Corrective Action (CA) as set forth in the Corrective Action Consent Order (CACO) Docket No. P3-01/02-010 (February 25, 2002). The facility Closure and CA processes are occurring concurrently, and as discussed in Section 3.2, 'Closure Performance Standards', Exide anticipates that future CA may inform Closure; however, Closure and CA are separate projects proceeding on separate paths with separate regulatory and technical requirements. The Closure Plan addresses the former IS units and impacts associated with their operations. The Corrective Action (CA) process addresses impacts from historic facility operations and is not addressed in the Closure Plan. The Corrective Action process includes implementation of a RCRA Facility Investigation, a Corrective Measures Study (CMS), remedy selection and Corrective Measures Implementation. The CA is being conducted pursuant to a Corrective Action Consent Order (CACO) and other agreements between Exide and DTSC.

1.3 PROJECT MANAGEMENT

This section describes the project organization and identifies key parties for the closure process. Project organization is summarized in Figure 1.1.

1.3.1 OWNER

Exide Technologies is the owner of the Vernon facility. Exide has overall responsibility for planning and implementation of the closure and long-term maintenance and monitoring of the facility. Exide has the authority to accept or reject plans, work methods and the materials and workmanship of the Contractor. Exide will designate a key point of contact that will be able to mobilize additional Exide resources and facilitate critical decisions. The Exide key point of contact will be located in the Office Building.

1.3.2 PLAN PREPARER

Exide retained Advanced GeoServices to prepare the Closure Plan. The Plan Preparer will assist Exide and the Contractor in understanding and interpreting the Closure Plan. The Plan Preparer will assist Exide with obtaining state, county and local permits prior to closure task implementation. Exide may use additional consultants as needed.

1.3.3 CONTRACTOR

Exide will retain a Contractor to implement the Closure Plan. Different contractors may be used for Phase 1 and Phase 2. The Contractor will be an environmental remediation contractor experienced in projects of similar size and scope. The Contractor may use subcontractors to conduct specialized or specific tasks.

The Contractor is responsible for implementation of the Closure Plan in accordance with their contract with Exide. The Contractor will be responsible for:

- Retaining and overseeing subcontractors, as needed, to perform the specialized components of the work scope;

- Cooperate with and coordinate activities with regulatory agencies, Exide and the Resident Engineer;
- Submit reports, results, drawings as required for Exide and the Resident Engineer; and,
- Perform activities, as necessary, so that a final report signed and sealed by the Resident Engineer and a certificate of completion can be submitted at the completion of closure.

The Contractor will establish a construction office trailer at an on-site location designated by Exide.

1.3.4 SUBCONTRACTORS

Subcontractors to the Contractor will be responsible for their respective work in accordance with the Closure Plan.

1.3.5 OWNER OVERSIGHT

This section defines oversight roles retained by and conducted for Exide.

1.3.5.1 **Resident Engineer and Quality Assurance**

Exide has retained Advanced GeoServices to fulfill the roll of the Resident Engineer. The Resident Engineer, with the support of his/her designees, will be responsible for:

- Overseeing and documenting the Contractor's implementation of the Closure Plan;
- Performing confirmatory sampling required by the Closure Plan;
- Attending meetings and inspections;
- Reviewing and approving Contractor submittals;

- Assisting Exide with review of Contractor change orders which are contractual in nature and do not impact Closure Plan implementation;
- Coordinating agency review and approval of Closure Plan variations;
- Review of Contractor invoices; and,
- Preparation of the Closure Certification Report.

The designated Resident Engineer will be a professional civil engineer licensed in the State of California. The Resident Engineer will make periodic visits to the facility during closure activities. The Resident Engineer will designate field representatives to be present at the facility during the Closure Plan implementation. It is anticipate that two full-time personnel (one lead and one assistant) will be assigned to the project as field representatives for the Resident Engineer. Additional field personnel will be assigned as appropriate based on the Contractor's schedule and intensity of the work. The Resident Engineer's lead field representative will be the point of day to day contact during execution. Exide will provide office space in the former Engineering Building for Resident Engineer personnel and equipment.

1.3.5.2 **Air Monitoring Subcontractor**

Exide has retained Almega Environmental to implement the ambient air monitoring program at the facility.

1.3.6 Regulatory Agencies and Agency Oversight

Regulatory agencies associated with the Closure include:

- DTSC
- South Coast Air Quality Management District (SCAQMD)
- City of Vernon
- Los Angeles County Sanitation District

Additional agencies may become involved as permitting obligations are identified.

As a part of the Closure Plan, agency oversight of the work by regulatory agencies will be provided by a third party QA contractor (Dust Mitigation Oversight) hired by the regulatory agencies (DTSC and AQMD) and funded by Exide. The QA Contractor will provide oversight for implementation of the Closure Plan to ensure that the closure activities do not add additional environmental impacts (that are not already identified in the Environmental Impact Report) to the surrounding neighborhoods. The QA Contractor will conduct the real-time air monitoring specified in Appendix G, section 3.6.2. The QA Contractor will also confirm compliance with truck loading procedures, truck decontamination procedures and transportation routes established in the Closure Plan. In addition each agency will provide a regular inspector to the oversight process to ensure the agencies are confident that all work is meeting the highest standards of performance related to environmental compliance.

1.3.6.1 **DTSC**

DTSC is the lead agency for the project. It is expected that the DTSC field representative will be one individual dedicated to the project who will be on-site on a full-time basis during start up and major work elements, and on a part-time basis during the balance of the work as appropriate to maintain communication and direct the Dust Mitigation Oversight representative. The DTSC field representative will maintain daily contact with the Dust Mitigation Oversight representative, participate in weekly progress meetings and complete other activities necessary to keep DTSC management informed on progress. Exide will provide a desk and chair in the former Engineering or Office Building for use by DTSC. DTSC inspectors will also be on-site to observe and document compliance with the terms of the approved Closure Plan and CCR, chapter 15 requirements.

1.3.6.2 **AQMD**

AQMD is the agency providing approval of engineering controls put in place to ensure there are no exceedances of the ambient air standards. It is expected that the AQMD field representative will be one individual dedicated to the project who will be on-site on a near full-time basis during start up and beginning of major work elements, and on a part-time basis during the balance of the work as appropriate to maintain communication and direct the Dust Mitigation Oversight representative. The AQMD field representative will maintain daily contact with the Dust Mitigation Oversight representative, participate in weekly progress meetings and complete other activities necessary to keep AQMD management informed on progress. Exide will provide a desk and chair in the former Engineering or Office Building for use by AQMD.

1.3.6.3 **Dust Mitigation Oversight**

The Dust Mitigation Oversight Representative will be a third-party environmental consultant experienced in industrial site remediation hired by the agencies and funded by Exide to monitor work, confirmatory sampling and engineering controls for consistency with the Closure Plan, perform real-time air monitoring, and serve as the eyes and ears of DTSC and AQMD in the field on a daily basis. The Dust Mitigation Oversight will assign two full-time personnel to act as the lead and assistant with supplemental personnel as appropriate based on the Closure Contractor's schedule and intensity of work. Exide will provide office space in the former Engineering Building for the Dust Mitigation Oversight Representative.

1.4 MEETINGS

1.4.1 Pre-Construction Meeting

A pre-construction meeting will be held at the facility at the start of each phase of closure. Exide, the Contractor, and Resident Engineer will attend. DTSC, AQMD, and the City of Vernon will also be invited to attend. The meeting agenda will include, at a minimum:

- Designation of responsible personnel;
- Lines of communication;
- Construction schedule and work sequence;
- Fugitive dust mitigation and prevention;
- Working hours;
- Oversight and sampling procedures;
- Submittal procedures and requirements;
- Reporting;
- Facility security and safety procedures;
- Work area security and safety procedures; and,
- Procedures for processing field decisions and change orders.

A site walk will be conducted to verify that the approved Closure Plan is understood and to review material and equipment locations. Meeting minutes will be recorded by the Resident Engineer and submitted to all parties in attendance within three (3) business days of the meeting.

1.4.2 Progress Meetings

Progress meetings will be held at the facility weekly with Exide, the Contractor, and the Resident Engineer when field activities are occurring. DTSC, AQMD and the City of Vernon will be invited to attend. The meeting agenda will include the following:

- Work completed during the previous week;
- Health and safety summary;
- Concerns or areas of improvement with work completed during the previous week;
- Coordination or workmanship problems;
- Work planned for the upcoming two weeks;

- Notification to AQMD and DTSC of activities that have the potential to result in the release of fugitive-lead-containing dust;
- Potential problems and proposed solutions;
- Engineering controls for upcoming work; and,
- Staff levels necessary to provide oversight for upcoming work.

The Resident Engineer will prepare a meeting agenda, coordinate the meeting time and place, provide a conference call number, and moderate the meeting. The Resident Engineer will distribute meeting minutes to each party present and other parties who should have been present within five (5) business days. Comments on the minutes will be provided to the Resident Engineer within three (3) business days of receipt of the meeting minutes, or prior to the following meeting, whichever is sooner.

Date: November 2015

2.0 FACILITY INFORMATION

2.1 FACILITY IDENTIFICATION

Exide Technologies provides the following facility identification information:

EPA/DHS I.D. Number: CAD 097 854 541

Name: Exide Technologies
Lead Recycling Facility

Type of Facility: A Lead Recycling Facility operated at this location from 1922 to 2014 for the recovery of lead from automotive batteries and other lead-bearing materials received from off site and generated on site. Supporting operations such as emission control and wastewater treatment continue.

Facility Mailing Address: Exide Technologies
Resource Recycling
2700 South Indiana Street
Vernon, California 90058

2.2 FACILITY LOCATION

2717 South Indiana Street
Vernon, California 90058
Latitude: 34º 00'22" Longitude: 118º 11'48"
Section 12 of Township 2 South, Range 13 West (San Bernardino Base Meridian)
This location is not on Indian Lands.
See Figure 2.1 for Facility Location Map.

Telephone Number: (323) 262-1101

SIC Code: 3341

Date: November 2015

Operator Address: Exide Technologies
13000 Deerfield Parkway, Suite 200
Milton, GA 30004
(678) 566-9000

Owner Name and Address: Exide Technologies
13000 Deerfield Parkway, Suite 200
Milton, GA 30004
(678) 566-9000

Facility Contact: Nicolas Serieys
Interim Environmental Manager
Exide Technologies
2700 South Indiana Street
Vernon, California 90058
(323) 262-1101 x-259

Name of Persons Preparing Plan:

Advanced GeoServices
1055 Andrew Drive, Suite A
West Chester, Pennsylvania 19380
(610) 840-9100
Paul G. Stratman, P.E.

2.3 FACILITY DESCRIPTION

2.3.1 Facility Configuration

The facility encompasses approximately 15.5 acres which are generally referred to in three areas: North Yard, South Yard and West Yard. Topographic information to 1 mile beyond the facility boundaries is presented on the USGS topographic map shown on Figure 2.1. USGS topographic maps are also provided in Appendix M. A detailed topographic map of the facility and immediately adjacent areas (60 to 75 ft.) at a scale of 1 inch equals 20 ft. and 0.5 ft. contour interval based on a topographic survey performed in 2006 is presented in Appendix E. The USGS topographic map (Figure 2.1) provides additional information at a scale of 1"= 2000 ft. to

at least 2000 feet beyond the property. The current 2006 topographic survey will be replaced by a new survey to show all of the recent enhancements, well installations, upgrades and modifications added to the facility since 2006. The new survey shall follow all of the requirements of 22 CCR 66270.14(b)(18), and will be submitted to DTSC within 45 days of approval of the Closure Plan and before any deconstruction occurs.

The USGS topographic map (Figure 2.1) includes legal boundaries of the facility and surface water bodies. Physical changes to the facility since the time of the topographic survey have been limited to enclosure of the baghouse, mud tank and RMPS plastic loading areas, construction of the truck wash and scale in the West Yard, and installation of the dual containment stormwater collection system. New topographic surveys will be performed before and after building demolition.

The location of each existing hazardous waste treatment and storage unit is provided on Figure 2.2. The location of each sump which is ancillary to a former IS unit is provided on Figure 2.11. The as-built survey for the replacement stormwater system is provided in Appendix B. Design information for the installation of the stormwater system is also provided in Appendix B.

Figure 2.15 provides the information required by 22 CCR 66270.14(b)(18) on one figure. The requirements of 22 CCR 66270.14(b)(18) are addressed as follows:

> *(18) a topographic map showing a distance of 2000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours shall be shown on the map. The contour interval shall be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of hazardous waste management facilities located in mountainous areas should use larger contour intervals to adequately show topographic profiles of facilities.*

Figure 2.15, Facility Topographic Map, has been provided at a scale of 1 inch equals 200 feet. Contours at 2 ft intervals are provided. As the figure is difficult to read at the required scale, a window of a portion of the facility has been provided at a scale of 1 inch equals 50 feet. As noted earlier, an updated topographic survey of the entire facility will be completed and submitted to DTSC within 45 days of DTSC approval of the Closure Plan.

The map shall clearly show the following:

(A) map scale and date;

The map is provided at a scale of 1 inch equals 200 feet and is dated July 2015.

(B) 100-year floodplain area;

The facility, which lies entirely within the incorporated City of Vernon, is outside the 100-year floodplain. The Flood Insurance Rate Map Index for the Los Angeles area and the Community Panel Number 065043 0935 B show that the City of Vernon is not included in the Federal Emergency Management Agency flood mapping system. A note has been provided on Figure 2.15 indicating this.

(C) surface waters including intermittent streams;

The facility is located near the Los Angeles River as shown on Figure 2.15. A portion of the flood control drainage system bisects the facility's property in the form of a covered box culvert and an adjacent open concrete drainage channel. The open concrete drainage channel is shown on the figure.

(D) surrounding land uses (residential, commercial, agricultural, recreational);

As shown on Figure 2.15, the facility and surrounding area is zoned General Industrial, Heavy Industrial and Commercial/Industrial.

(E) a wind rose (i.e., prevailing wind-speed and direction);

The wind rose provided in Appendix H has been provided on Figure 2.15.

(F) orientation of the map (north arrow);

Figure 2.15 has a north arrow.

(G) legal boundaries of the hazardous waste management facility site;

Property boundaries are provided on Figure 2.15.

(H) access control (fences, gates);

Fences and gates are provided on Figure 2.15.

(I) injection and withdrawal wells both onsite and offsite;

No injection wells are present at the facility. Monitoring wells and production wells are provided on Figure 2.15.

(J) buildings; transfer, treatment, storage or disposal operations; or other structure (recreation areas, run-off control systems, access and internal roads, storm, sanitary and process sewerage systems, loading and unloading areas, fire control facilities, etc.);

Buildings, operational areas, the on-site stormwater management system, paved areas, roadways, and loading and unloading areas are provided on Figure 2.15.

(K) barriers for drainage or flood control;

Figure 2.15 provides the facility perimeter curbing which maintains stormwater on-site.

(L) location of operational units within the hazardous waste management facility site, where hazardous waste is (or will be) transferred, treated, stored or disposed (include equipment cleanup areas);

Figure 2.15 provides the location of Units 1 through 3 and 5 through 103. Unit 4 was previously closed and is not shown.

2.3.2 Neighboring Wells

Figure 16, Comprehensive Water Quality Monitoring Plan – City of Vernon (City-1), provided in Appendix N shows the location of City of Vernon wells. On-site monitoring well locations are shown on Figure 2.3, with the exception of wells related to the Containment Building and RCRA Facility Investigation. These wells are not shown as installation is not complete and the wells have not yet been surveyed. None of the on-site wells are for untreated drinking water supply. A search of Los Angeles County Department of Public Works website identified six public water supply wells within one mile as shown on Figure 2.4. There is no indication in the City of Vernon and California Department of Water Resources records of any private use or residential drinking water wells in the area. One additional well (02S13W12P004) believed to be owned by Bobby Robertson has been identified in public records, but not field confirmed, at Central Valley Hide Company, 3768 Bandini Boulevard as shown on Figure 2.4.

An inactive production well is present at the Exide facility in the South Yard. The original log for the well has been located and provided to DTSC as part of the ongoing Corrective Action activities. The well was drilled in 1948 for potable/industrial water use. The original log indicates that it is on the order of 550 feet below the ground surface (bgs) and 12 inches in diameter with the first perforations for the screen at 223 to 230 feet bgs. Additional perforated zones occur at 246 to 256 feet bgs, 420 to 428 feet bgs, 440 to 451 feet bgs, and 527 to 532 feet bgs. A geophysical evaluation, conducted in March 2015, revealed a "large monopole anomaly", which is a typical response for steel-cased water wells (Geophysical Evaluation, 2717 South Indiana Street, Vernon, California, prepared by Southwest Geophysics, Inc., dated March 31, 2015). On May 4, 2015, the well head and a single, 3-inch diameter, co-located sounding tube were successfully uncovered, and Exide is currently planning to assess the condition of the well, conduct sampling and then properly decommission it in accordance with local and state standards under the oversight of the City of Vernon. The approximate location is provided on Figure 2.3. Additional information is provided in the well investigation work plan being conducted under Corrective Action.

2.3.3 Surrounding Land Use

Figure 2.5 provides the zoning codes for the facility and surroundings. The facility location and surrounding properties are zoned for industry.

2.3.4 Hydrogeologic Conditions

2.3.4.1 **General**

The uppermost hydrogeologic unit beneath the facility is a perched zone of the Bellflower Aquiclude, which extends from the surface to depths in excess of 90 feet. The Bellflower Aquiclude is a unit of silts and sandy clays commonly containing perched groundwater. The Exposition Aquifer underlies the Bellflower Aquiclude and is reported to extend to a depth of

about 175 feet in the area. The Lower Aquiclude and Gage Aquifer systems underlie the Exposition Aquifer.

Boring logs from existing monitoring wells at the facility confirm this general description of the Bellflower Aquiclude and Exposition Aquifer. Two geologic cross sections were developed using information from the existing monitor well boring logs and the results of test borings made prior to the construction of the current plant in 1982. Copies of these boring logs are provided in Appendix L. The cross sections and monitoring well locations are indicated in Figure 2.3, and an additional copy of the figures is provided in Appendix L. An updated figure showing all monitoring well locations will be provided to DTSC within 30 days of approval of the Closure Plan. Section A-A', shown in Figure 2.6, is an east/west section extending from monitoring well MW-15 to MW-8. Section B-B', shown in Figure 2.7, runs in the north/south direction along a line through the RMPS Building and the Stormwater Surface Impoundment. Revised sections reflecting the RFI lithologic data collected over the past several years will be provided to DTSC within 45 days of approval of the Closure Plan.

Additional hydrogeologic information is being gathered as part of the ongoing RCRA Facility Investigation (RFI). This includes groundwater investigations of any perched zones encountered during drilling, as well as deeper groundwater as it occurs beneath, and adjacent to, the facility. Recent drilling conducted as part of the RFI has identified a previously unknown, shallow, thin, discontinuous 'perched' zone occurring at depths from 17 feet to 20 feet bgs beneath some areas of the facility. For the purposes of the Closure Plan, this zone will be referred to as the 'upper perched zone', while the 'lower perched zone' refers to groundwater that occurs at depths ranging from 70 to 80 feet bgs. This zone has been extensively monitored and has groundwater data extending as far back as the mid-1980's. A new site-wide liquefaction study will be submitted to DTSC within 60 days of approval of the Closure Plan.

The aquifer below the lower perched zone, occurring at depths ranging from 140 to 150 feet bgs, is interpreted to be part of the regional Exposition Aquifer. For the purposes of this Closure Plan, this aquifer will be referred to as the Exposition Aquifer. Groundwater investigations are

ongoing, however, several groundwater monitoring wells have recently been installed onsite in this zone (CB-3, MW-6D, MW-9D, MW-16D, MW-23D, MW-27D) with more wells proposed for installation. The upper perched zone is not currently being monitored, therefore, the lateral extent of this zone is unknown, as is any indication that it is contaminated by releases from the facility, or if it extends offsite. The hydrostratigraphy, hydrogeology, and geochemistry of this upper zone will be further explored during the RFI.

Groundwater elevation measurements, mainly of the lower perched zone, have been periodically taken since July 1987. Table 2.1 summarizes the water level measurements taken from 1990 to 2014. The water level elevation within the lower perched zone beneath the facility showed a consistent declining trend from 1989 to 1994, and increase from 1994 to 1999, a general declining trend from 1999 to the present, with a notable decrease in water-level elevations from 2013-2014 to present. This appears to have resulted in several monitoring wells (MW-9R, MW-11R, and MW-15) becoming dry over the past several months. This overall declining trend could be the result of several conditions, both near and far-field; 1) the prolonged drought, 2) pumping at an unidentified production or groundwater remediation well in the area, 3) improvements and upgrades to the surface impoundment liner and leak detection system, or 4) Exide's compliance with the associated Stipulation and Order between DTSC and Exide, Docket HWCA 2009-2208, for improved management of stormwater in the surface impoundment.

The relatively recent development of several wells becoming dry could be the result of the emergency removal that was implemented by Exide in 2014 to replace the compromised (i.e., leaking) subgrade stormwater system that extended across most of the facility. Top of casing in each well was resurveyed in April 2014. Figure 2.8 shows representative hydrographs from five of the existing monitor wells. These are typical of the overall conditions. A table summarizing well construction is provided as Table 2.7.

Appendix C shows the water level contours interpreted from the 2nd Quarter 2015 measurements, and represents the most current groundwater elevation contour map. Groundwater in the lower perched zone beneath the east side of the facility appears to have a groundwater high trending

east-west with groundwater flow to the north at a gradient of 0.016 feet per foot (ft/ft) and south at a gradient of 0.05 ft/ft. Groundwater flow beneath the West Yard is to the east-northeast with a hydraulic gradient of approximately 0.03 ft/ft; however, this gradient is difficult to calculate as MW-9R is dry. Groundwater flow direction(s) and gradient(s) in the upper perched zone is unknown at this time. Groundwater flow, based on both onsite and offsite well data, in the Exposition Aquifer is generally to the south-southwest.

2.3.4.2 **Groundwater Monitoring**

The groundwater monitoring program is described in the *Quarterly Groundwater Monitoring Report* for First Quarter 2015 provided in Appendix C and the *Quarterly Groundwater Sampling and Analysis Plan* provided in Appendix X. The Quarterly Groundwater Sampling and Analysis Plan is being implemented, but is still under review by DTSC.

As the RFI is not yet complete, adequate groundwater data is not available to define a plume. However, there is sufficient information to draw some initial conclusions regarding shallow groundwater impact. As noted earlier, recent monitoring well installations across the facility indicate that there is more than one perched zone beneath the facility, that perched groundwater is discontinuous across the site, and water levels cannot be used to define groundwater flow direction except on a very localized basis. Overall water levels in wells set in the lower perched zone have been decreasing, and, as noted above, some wells that previously held water have gone dry. There are several potential reasons for the decreasing water levels: the persistent drought, paving of previously unpaved areas in the vicinity, improved stormwater management practices for the surface impoundment, and replacement of the subsurface stormwater system.

There are areas of localized impact within the lower perched water zone at the facility:

- An area of reduced pH, dissolved metals above the MCLs and low levels of volatile organic compounds (benzene, 1,2 - dichloroethane, trichloroethane, cis -

1,2 dichloroethene) above their respective MCLs in the western portion of the West Yard. Wells are slated to be installed to the south and west of this area to identify the lateral extent of impact as well as determine whether it has impacted the deeper, regional Exposition aquifer.

- An area of dissolved metals (most notably cadmium, lead, nickel and zinc, with lesser levels of antimony, beryllium and mercury) above the MCLs in the vicinity of the surface impoundment and in the southeast corner of the South Yard. The RCRA Facility Assessment also identified a historic pond in the south yard (Area of Concern M-29) that is believed to have been used until the 1950s or 60s. Impacts from the IS surface impoundment/stormwater pond are also possible. There are additional wells slated to be installed to the south of the impoundment to identify the lateral extent of impact as well as determine whether it has impacted the deeper, regional Exposition Aquifer.

- An area of trichloroethane (TCE) at concentrations above the MCL in the southeastern portion of the South Yard that appears to extend across South Indiana Street into the Exide office parking lot. Two of the shallow wells that have exhibited TCE concentrations above the MCL in the past, MW-11 and MW-15, are now dry. There are wells currently being installed to determine whether the deeper, regional Exposition Aquifer has been impacted.

In the 1st quarter of 2015, wells on the former Honeywell property to the east of the Exide office property that are screened in the Exposition Aquifer were sampled for the first time and found to have concentrations of TCE, cis-1,2-dichloroethene, tetrachloroethene and carbon tetrachloride above their respective MCLs. MW-17 located across Bandini Boulevard on Baker property, also screened in the Exposition Aquifer, has reported concentrations of TCE and carbon tetrachloride above the MCLs. At this time, there is insufficient information to conclude whether the off-site impacts above the MCLs are related to the Exide facility, particularly since tetrachlorethene and

carbon tetrachloride have not been found at the facility or known to be associated with facility operations in previous investigations. As noted earlier, Exide has already installed several wells onsite to investigate the Exposition Aquifer, with additional wells slated to be installed to determine conditions in this aquifer upgradient of Exide as well as downgradient of areas of known VOC impacts in the lower perched groundwater as part of the RFI. Along with this, Exide is committed to install additional wells, if needed, to investigate the upper perched zone.

2.3.5 Weather Conditions

Appendix H presents a wind rose for Vernon, California. The predominant wind direction is from the west. The climate in Vernon, California is typically 70^{o}F in the summer and 50 ^{o}F in the winter. The average annual precipitation is 15 inches. Rainfall is generally distributed evenly throughout the year.

2.4 OWNERSHIP HISTORY

In 1922, Morris P. Kirk & Sons, Inc. began secondary smelting and processing operations for aluminum, lead and zinc in a portion of the South Yard area of the Facility. NL Industries (NL) acquired Morris P. Kirk & Sons, Inc. in 1953. In 1979, Gould, Inc. (Gould) acquired the Facility from NL and maintained operations until 1983. In 1983, GNB Technologies bought the Facility from Gould. In September 2000, Exide Technologies acquired GNB, including the Vernon facility. Exide has owned and operated the Facility since September 2000.

2.5 OPERATIONAL HISTORY

Morris P. Kirk & Son, Inc. began operations in 1922. During this time frame, the facility operations were limited to the South Yard area. The earliest facility operations recycled lead acid batteries in addition to aluminum, lead, zinc and scrap metal. By 1946, operations had expanded onto the West Yard. Waste materials (primarily slag associated with the various

smelting and refining operations) and waste acid are reported to have been disposed in the West Yard Area.

During the early 1980s, the facility was the subject of a major modernization and reconstruction project that resulted in the cessation of handling and processing activities not related to lead recycling (i.e., aluminum smelting, zinc alloying and metals extrusion). The Raw Material Processing System (RMPS) and raw material storage building, new smelter building and baghouse area structures were all constructed on or about 1982 in the North Yard. Many of the original structures in the South Yard and West Yard were demolished after construction of the upgraded smelter and battery breaking operations in the North Yard. The lined rainwater retention pond in the South Yard was constructed in 1984.

Exide ceased recycling operations in March 2014 as part of a scheduled maintenance shut-down. From March 2014 to October 2014, no activities occurred at the facility. From October 2014 to May 2015, maintenance, housekeeping and improvement activities occurred, but recycling operations did not occur. Emission control equipment and wastewater treatment has remained active throughout these activities. Exide conducted a partial cleaning of the facility by HEPA vacuuming in 2014. Portions of the Containment Building not subject to the 2014 partial cleaning have dust and debris accumulated over years of operation.

2.6 ENVIRONMENTAL PERMITS

2.6.1 SCAQMD Permits

Air Quality Permit No. 124838 is a Title V permit issued by SCAQMD on June 24, 2009. The Title V Permit expires in March 2016.

2.6.2 Los Angeles County Sanitation District Waste Discharge Permit

Industrial Wastewater Discharge Permit No. 15725 was issued by the Los Angeles County Sanitation District on April 17, 2012 and has an expiration date of April 16, 2017. Exide submitted a permit revision to reflect the closure activities on May 7, 2015.

2.6.3 Other Permits Relating to Hazardous Waste Storage or Treatment

The City of Vernon issued Health Permits for a Waste Processing Facility (PT0000039), Aboveground Storage Tank Facility (PT0003217), Hazardous Materials Establishment – C (PT0000456), TSD Facility (PT0002264), and Hazardous Waste Generator – Large Quantity (PT0002693). These permits expire on June 30, 2015, except for the Waste Processing Facility permit which expires December 31, 2015.

A Weighmaster License No. 9758 was issued by the Department of Food and Agriculture, Division of Measurement Standards. The license expires December 1, 2015.

A State of California Permit to Operate Liquefied Petroleum Gas Tank, (L009110-02) was issued on April 15, 2013 and expires April 15, 2016.

State of California Permits to Operate Air Pressure Tanks (A044050-12, A044228-12, A044227-12, and A044226-12) were issued June 7, 2012 and expire June 6, 2017. State of California Permits to Operate Air Pressure Tanks (A010505-02, A010507-02, A044050-12, A044226-12, A044227-12, and A044228-12) were issued June 7, 2012 and expire June 7, 2017. State of California Permits to Operate Air Pressure Tanks (A010054-05 and A010502-02) were issued August 30, 2012 and expire August 30, 2017.

A California Hazardous Materials Transportation License (55594) was issued March 19, 2013 and expires September 30, 2015.

All permits shall remain in effect and current as long as inventories and materials remain on-site and a closure letter is issued by the City of Vernon.

2.6.4 NPDES Permit

Even though facility stormwater runoff is collected for treatment and discharge to the Los Angeles County POTW, the Los Angeles Regional Water Control Board has required the facility to obtain a General NPDES permit for Stormwater Discharges Associated with Industrial Activity (NPDS No. CAS0000010). The Notice of Intent was submitted October 16, 2012. The facility's WDID number is 419I023878. The Stormwater Pollution Prevention Plan (SWPPP) is provided in Appendix Q. The SWPPP has been updated as required by the new Industrial Stormwater General Permit.

2.7 FACILITY DESIGN

2.7.1 Hazardous Waste Units

Hazardous wastes handled at the facility are managed either in containers, tanks, containment buildings, a surface impoundment, or miscellaneous units. The majority of the storage containers were spent lead-acid batteries which represented the primary feed material for the facility recycling process. The facility's permit application included 103 hazardous waste units, one of which was removed (Unit 4). Proposed units which were not installed (Units 81 to 86 and 88) are discussed in Section 3.1.3. Unit 4, Canopied Container Storage Building, was removed as part of implementation of the Class 2 Permit Modification for expansion of the Reverb Furnace Feed Room (Unit 33) and construction of the Corridor (part of Unit 33) and Truck Wash Sump (Unit 51) approved by DTSC on December 13, 1999. Subsurface soil verification sampling will be conducted during closure for all hazardous waste management units at the facility, including the subsurface soil beneath former Unit 4.

Cleaning and removal of the above grade components of the former WWTP (Units 11, 15 to 23, 26 to 30, 38, and 39) was completed in November 2008 to January 2009. Subsurface soil sampling in the vicinity of Units 15 to 21, 38, and 39 in the South Yard was performed as part of the ongoing RFI. Subsurface soil sampling for Units 22, 23, 29, and 30 at the Baghouse Building was performed as part of the ongoing RFI. Subsurface soil sampling for Units 11 and 26 to 28 will be performed as part of closure sampling for the RMPS Building. Subsurface soil verification sampling will be conducted during closure for all hazardous waste management units at the facility.

Cleaning and removal of the above grade components of Units 64 and 65 was completed in October and November 2009. Subsurface soil sampling in the vicinity of Units 64 and 65 is being performed as part of closure sampling for the Desulfurization Building.

The location of each unit is provided on Figure 2.2. The location of units which were removed is shown on Figure 2.13, with the exception of Units 64 and 65. The location of Units 64 and 65 is provided in Appendix D. The as-built survey of the stormwater system is provided in Appendix B. The location of sumps which are ancillary to former IS units are provided in Figure 2.11. The process flow diagram for the facility is provided as Figure 2.12.

Table 1.1 summarizes the maximum inventory, worst case waste inventory (gross capacity), and actual inventory as of July 10, 2015. Table 1.1 also provides the unit name, unit type, location, contents, density of the contents, waste code, size, and methods for content removal, transport, treatment, storage, disposal, and the off-site disposal facility. In preparation for closure, Exide has removed waste inventory from select units, or is in the process of doing so. The status of inventory removal as of July 10, 2015 is provided in Table 1.1. Unit 12, Paste Thickening Unit, was replaced in late 2014 and was not used to manage waste materials. Unit 12 will be closed as a hazardous waste management unit.

Table 1.2 summarizes the waste and scrap metal generated during closure and provides the location/secondary containment area, unit name, unit type, materials of construction, size, quantities of decontamination water generated during closure, and quantities of concrete, soil and decontamination water generated during contingent closure. Table 1.3 summarizes the ancillary sumps, including the worst case inventory (gross capacity), wastes generated during closure, and wastes generated during contingent closure. Table 2.2 summarizes the unit name, contents, waste codes, unit size, materials of construction, maximum inventory, gross capacity, treatment rate, treatment type, overfill protection, secondary containment, structural certification and status. Table 5.1 summarizes the maximum quantities of waste generated during inventory removal, closure and contingent closure and their respective disposal method.

2.7.2 Containment Areas

Units requiring secondary containment are either double-lined with leak-detection, or are contained within one of nine secondary containment areas at the facility. The secondary containment areas, and the units within them, are as follows:

- Central Container Storage Building 1 (Unit 1);
- West Container Storage Building 1 (Unit 2);
- West Container Storage Building 2 (Unit 3);
- Desulfurization Area (Units 7, 8, 9, 10, 67);
- RMPS Area (Units 6, 12, 13, 14, 40, 41, 42, 43, 44, 45, 66, 79, 80);
- RMPS Lower Level (Units 5, 70);
- WWTP Area (Units 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 71, 72, 73, 74, 75, 76, 77);
- Drop Out System (Units 46, 47, 48, 49, 50); and,
- Oxidation Tank Area (Units 24, 25).

2.7.3 Buildings

The facility includes several buildings which are former IS units themselves, several buildings which contain former IS units, and several buildings which are not associated with former IS units.

2.7.3.1 **Buildings which are Units**

The following buildings at the facility are former IS units themselves:

- Reverb Furnace Feed Room (Unit 33), including Upper Feed Room, Lower Feed Room and Corridor; and,
- Blast Furnace Feed Room (Unit 34).

2.7.3.2 **Buildings which Contain Units**

The following buildings at the facility contain former IS units:

- Rotary Kiln Enclosure;
- RMPS Building;
- Desulfurization Building;
- Baghouse Building; and,
- Smelter Building.

The Rotary Kiln Enclosure is located within the Baghouse Building and contains Unit 69.

The RMPS area is enclosed within the RMPS Building. The RMPS Building consists of four sections: the unloading dock, the narrow section along the west side of the Reverb Furnace Feed Room, the main RMPS area, and the enclosed plastic trailer loading dock. The section along the

west side of the Reverb Furnace Feed Room includes a main level, and a lower level which includes Unit 5, Battery Dump Bin Sump, and Unit 70, Oscillating Pan Feeder. The RMPS Building has two concrete secondary containment areas (the main area and the lower level), concrete floor, metal roof, and concrete and metal walls. Existing Units 5, 6, 12, 13, 14, 40, 41, 42, 43, 44, 45, 66, 68, 70, 79, and 80, and former Units 11, 26, 27, 28 are located within the RMPS Building.

The Desulfurization Area is enclosed within the Desulfurization Building. The building is also referred to as the Mud Tank Building. The Desulfurization Building has a concrete secondary containment area, metal roof and concrete and metal walls. Units 7, 8, 9, 10, former 64, former 65, and 67 and ancillary sump Mud Tank Area Sump 1 are located within the secondary containment area at the Desulfurization Building.

The Baghouse Building has a concrete floor, metal roof and metal walls. Units 31, 32, 88, former units 22, 23, 29, and 30, and ancillary sumps Baghouse Building Sump 1, Baghouse Building Sump 2, Baghouse Building Sump 3, Baghouse Building Tire Wash, and Neptune Scrubber Sump are located within the Baghouse Building.

The Smelter Building has a concrete floor, metal roof and concrete and metal walls. Units 36, 37, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102 are located on the main level of the Smelter Building. Ancillary sumps North Kettle Gallery Sump, South Kettle Gallery Sump and Cooling Tower Return Sump are located within the lower level of the Smelter Building.

Three cranes (15 tons maximum each) are present at the facility which may be used during closure: two in the Smelter Building, and one in the RMPS Building.

2.7.3.3 **Finished Lead Building**

The Finished Lead Building does not contain any hazardous waste units or ancillary sumps; however, it is proposed for use during closure activities. The Finished Lead Building has a concrete floor, metal roof and concrete and metal walls.

2.7.3.4 **Roof Repairs**

Exide conducted roof repairs from January 22 to March 31, 2015 at:

- Desulfurization Building;
- RMPS Building;
- Containment Building (Reverb Feed Room and Blast Feed Room);
- Baghouse Building;
- Smelter Building; and,
- Finished Lead Building.

Subsequent roof washing indicated that the roof repairs were successful.

2.7.4 Emission Control Equipment

Emission control equipment at the facility is regulated by the SCAQMD. Emission control equipment generally consists of baghouses with associated equipment including HEPA filters, scrubbers, duct work and dust conveyors. Emission control equipment that was installed at the facility, but did not operate, includes regenerative thermal oxidizers (RTOs).

Under requirements of SCAQMD Rule 1420.1, the RMPS Building, Reverb Furnace Feed Room (including Corridor), Blast Furnace Feed Room, Baghouse Building, Smelter Building, and Desulfurization Building must be maintained under negative pressure relative to the outdoor atmosphere. Operation of these structures under negative pressure ensures that airflow is inward

through openings and doorways. Also per SCAQMD Rule 1420.1, the pressure differential between these building interiors and the outdoor atmosphere is continuously monitored and recorded to provide a measure of compliance with those requirements with records retained for documentation.

The facility operates six systems which maintain the required negative pressure:

- Soft Lead Baghouse system;
- Hard Lead Baghouse system;
- Material Handling Baghouse system;
- MAC Baghouse systems (East and West);
- MAPCO Scrubber; and,
- Torit Baghouse system.

Three systems are currently not operating:

- Reverb Furnace Baghouse system;
- Blast Furnace Baghouse system; and,
- Rotary Kiln Baghouse system.

The location of emission control equipment is provided on Figure 2.14. The operational status and service area for each baghouse is provided in Table 2.5. A process flow diagram and other supporting information for the emission control systems are provided in Appendix T. Please note that installation of select equipment shown on the process flow diagram was not completed as a consequence of Exide's decision to close the Vernon facility. The cartridge filter and associated RTO in the Smelter Building and the RTO in the Baghouse Building were installed but not operated. The second metallurgical process wet scrubber was not installed.

The Finished Lead Warehouse is not required to be maintained under negative pressure under local or federal rules; however, the building typically functions under negative pressure by virtue of the systems for the other buildings. There is no directly dedicated extraction ventilation system applied to the Baghouse Building. Rather, the Baghouse Building is maintained under negative pressure by air drawn from that enclosure into the adjoining enclosures (i.e., RMPS Building, Reverb Furnace Feed Room, Blast Furnace Feed Room, and Smelter Building) which do have dedicated negative pressure extraction ventilation, primarily the ventilation systems serving the Smelter Building and the Reverb Feed Room and Blast Feed Room containment building enclosures.

Emission control equipment that is currently operating will remain in operation to maintain negative pressure on the associated buildings until the equipment is removed from service as described in this Closure Plan. It is anticipated that maintenance and repair activities will be conducted prior to and during closure activities.

The stacks associated with the kiln dryer and metallurgical (Venturi Neptune) scrubber are currently capped.

2.7.5 Utilities

In addition to process piping and stormwater management features, the facility has several inactive and active utilities including:

- Potable water;
- Fire suppression water;
- Gas;
- Electric;
- Sanitary sewer; and,
- Communications.

The Contractor will field confirm all utilities prior to work in a particular area. Exide will also provide historic utility drawings for the facility to the Contractor.

2.8 DESCRIPTION OF HAZARDOUS WASTE CONSTITUENTS

The wastes handled by the facility included spent lead-acid batteries, lead-bearing material, spent acid, emission control dust, lead paste from spent batteries, wastewater treatment sludge and sludge cake, wastewater, reverb furnace slag, polypropylene, blast furnace slag, Stormwater Surface Impoundment sediment, and separator material. Waste codes included D002 (corrosive), D004 (arsenic), D005 (barium), D006 (cadmium), D007 (chromium), D008 (lead), D010 (selenium), and K069 (emission control dust/sludge from lead smelter). Descriptions of each type of waste from when the facility was in operation are provided below. Annual quantities handled during facility operation are summarized in Table 2.3.

In addition, the Reverb Furnace (Unit 36), Blast Furnace Feed Room (Unit 34), and Blast Furnace (Unit 37) may have managed by-products related to the incomplete combustion of feed material. The incomplete combustion process can produce polyaromatic hydrocarbons (PAHs) and potentially dioxin/furans. The air emissions from the Reverb and Blast Furnaces are regulated by Title V permit issued by the SCAQMD.

The contaminants of concern for each unit are summarized in Table 2.4.

2.8.1 Raw Materials Received from Off-Site

Spent lead-acid batteries and lead-bearing material were the primary materials received from off-site. These materials were processed to reclaim lead and polypropylene.

2.8.1.1 **Spent Lead-Acid Batteries**

Spent lead-acid batteries are regulated under 22 CCR 66266.80-66266.81 and 40 CFR Part 266, Subpart G. Applicable California Waste Codes (CWC) include 181, 352, 724, and 792. While spent lead-acid batteries are not classified as a listed hazardous waste, these regulations require that spent lead-acid batteries be stored in a former IS container storage area. The regulations allow the use of a bill of lading or a hazardous waste manifest for transport of spent lead-acid batteries. Whole, undamaged batteries are viewed as individual containers. The contents of the containers may be classified as D002 (corrosive), D004 (arsenic toxicity), D005 (barium toxicity), D006 (cadmium toxicity), D007 (chromium toxicity), D008 (lead toxicity), and/or D010 (selenium toxicity) characteristic waste based upon their lead alloy and acid contents. Lead acid batteries made up approximately 85% of the incoming feed material.

2.8.1.2 **Lead-Bearing Material**

The balance of the facility's incoming feed material was composed of lead-bearing material obtained primarily from automotive and industrial lead-acid battery manufacturers. Classes of this material include reject plates and groups, wet and dry oxides, sump mud, pot dross, and baghouse dust. Applicable California Waste codes include 171, 172, 181, and 352. Applicable federal waste codes include D002, D004, D005, D006, D007, D008, and D010 based upon metals toxicity. Typical lead contents (by weight) for these classes of material are presented below:

Battery Manufacturing Material	**Lead Content**
Auto plates and separators	72%
Industrial plates and separators	80%
Formed plates or groups	92%
Dry oxide	85%
Wet oxide	65%
Sump mud	50%

Pot dross	90%
Baghouse dust	60%

Lead bearing materials were typically received in 55 gallon drums. Drum weights can vary widely depending on contents and how full the drum is filled. Based on information provided by Exide's Muncie, Indiana facility, a typical drum of lead bearing material weighs 500 to 550 pounds. Supporting information is provided in Appendix I. All drums of lead bearing material received by the facility have been removed and sent for off-site recycling.

2.8.2 Material Generated On-Site and Recycled or Treated On-Site

The material generated on-site and recycled or treated on-site includes process intermediates and waste by-products. Materials in this category include:

- Spent acid
- Emission control dust (flue dust from on-site baghouses)
- Lead paste from spent batteries
- Wastewater treatment sludge
- Wastewater
- Reverbatory furnace slag
- Stormwater System and Surface Impoundment Sediment
- Sweepings

2.8.2.1 **Spent Acid**

Spent acid was used as a neutralizing agent in the Raw Material Preparation System (RMPS), to remove the sulfur from lead-containing material, and in the wastewater treatment system. Spent lead-acid battery electrolyte (Federal waste codes D002, D004, D005, D006, D007, D008, and D010, California Waste Codes 724 and 792) was released from whole batteries when they are

initially dumped into the RMPS Oscillating Pan Feeder (Unit 70) and in greater quantities when the whole batteries are crushed in the former IS Hammer Mill (Unit 40). The electrolyte was an about 24% sulfuric acid solution with dissolved heavy metals. A typical automotive battery will contain between 0.5 and 1.0 gallon of electrolyte. The acid was collected in the Battery Dump Bin Sump (Unit 5) beneath the Oscillating Pan Feeder and the Paste Thickening Unit (Unit 12) beneath the Hammer Mill. The facility had the capacity to process up to 416,667 gallons per month of spent battery acid. Because the facility is no longer recycling batteries, spent acid is no longer being generated or stored on-site.

The acid, together with purchased virgin sulfuric and/or purchased spent lead-acid battery electrolyte, is used in the wastewater treatment system to adjust the influent pH in a multiple step metals precipitation sequence.

As described above, the management practices in place were sufficient to safely and effectively manage the spent acid. The collection sumps, tanks, piping, and pumps are constructed of corrosion resistant materials such as fiberglass, reinforced plastic or stainless steel.

2.8.2.2 **Emission Control Dust**

Air emissions from the facility are controlled by an extensive, state-of-the-art set of ventilation systems with filtration baghouses. The emissions control dust (flue dust) from the baghouses is a listed federal hazardous waste code K069 (California Waste Code 172). The flue dust has a high lead content and is continuously recycled for lead recovery upon generation. Annual flue dust generation was about 10,000 tons or 883 tons per month during recycling operations. Automated screw conveyors transferred the flue dust from the baghouses to the North and South Flue Dust Slurry Tanks (Units 31 and 32). Water was added to the flue dust in the tanks to produce a slurry. The slurry was then pumped to the former IS Mud Tanks (Units 7, 8 and 9). The contents of the mud tanks were processed through a filter press, and the resulting filter cake was processed through the furnaces to recover lead.

The handling of the flue dust at this facility is essentially a closed loop. The flue dust was not accumulated nor stored anywhere in its processing, and was transferred from the slurry tanks directly to the mud tanks upon collection. The baghouses have remained in operation since recycling operations ceased in March 2014; however, because the emission sources serviced by the baghouses (furnaces, refining kettles, etc.) have not been producing emissions, flue dust accumulation has all but ceased and creation of slurry high in lead content has stopped. Discharge from Units 31 and 32 continues to be sent to the former IS Mud Tanks (Units 7, 8 and 9) for settling prior to transfer of liquid to the WWTP for treatment. Solids are periodically removed from Units 7, 8 and 9 for off-site recycling or disposal.

2.8.2.3 **Lead Paste from Spent Batteries**

During the battery reclamation process, lead paste (lead oxide and lead sulfate) was separated from the other battery components. Typical lead paste contains 60 to 70 percent lead. The estimated annual volume generated at the facility was 64,070 tons during recycling operations. Lead paste (federal waste code of D002, D004, D005, D006, D007, D008, and D010 and California Waste Code 181) from the battery plates was removed by the vibratory washing screen at Unit 40 and collected in the former IS Paste Thickening Unit (Unit 12). The paste was removed and transferred to the former IS Mud Tanks (Unit 7, 8 and 9). The contents of the mud tanks were processed through a filter press and the resulting filter cake was processed through the furnaces to recover lead. Since the facility has ceased recycling operations, lead paste from spent batteries is no longer being produced and paste within Units 7, 8 and 9 has been or will be removed prior to closure and sent for off-site recycling or disposal.

Unit 12 had been emptied, cleaned, disassembled and replaced when the decision to close the facility was made. The replacement Unit 12 has never held waste material.

2.8.2.4 **Wastewater Treatment Sludge and Sludge Cake**

A by-product of the on-site wastewater treatment system, sludge was generated at a rate of about 1,242 tons per month or 14,900 tons annually during recycling operations. Applicable federal waste codes include D004, D006, and D008 and California Waste Codes 132 and 171.

The sludge generated was from the former IS WWTP Filter Press (No. 44) and the RMPS Filter Press Unit B (No. 45), both of which are located in the RMPS building. The sludge was collected and transferred to the furnaces for lead recovery. Since the facility has ceased recycling operations, Unit 44 and 45 are not operating. Sludge has been limited to solids from WWTP operations and facility cleaning. Sludge is currently sent to the former IS Mud Tanks (Units 7, 8 and 9) for settling prior to transfer of liquid to the WWTP for treatment. Solids are periodically removed from Units 7, 8 and 9 for off-site recycling or disposal.

During closure activities, the WWTP sludge will be collected in Unit 54, Sludge Holding Tank, the Mud Tanks (Units 7, 8 and 9), and/or the temporary decontamination water storage feature and transferred to another recycling facility for lead recovery, or dewatered and disposed off-site.

2.8.2.5 **Wastewater**

Wastewater treated on-site at the facility included spent acid and process wastewater, plant wash down water, mobile equipment wash water, and stormwater. The wastewater contains metals. Federal waste codes include D002, D004, D005, D006, D007, D008, and D010. The applicable California waste codes are 132, 721, 722, 723, 724, 791, and 792. The estimated annual volume, excluding spent acid, is about 69.4 million gallons per year, or 5.78 million gallons per month during recycling operations. On-site treatment stages include neutralization, multiple stage metals precipitation, and filtration. Treated wastewater is discharged to the POTW. Since the facility has ceased recycling operations, the wastewater treated on-site has been limited to almost exclusively plant wash down water, mobile equipment wash water, and stormwater.

Wastewater (wash down water, decontamination water) is currently sent to the former IS Mud Tanks (Units 7, 8 and 9) for settling prior to transfer of liquid to the WWTP for treatment. Solids are periodically removed from Units 7, 8 and 9 for off-site recycling or disposal.

Wastewater treatment will be required throughout the closure process and until Exide receives regulatory approval for discharge of stormwater runoff to the municipal stormwater system and/or concrete drainage channel.

2.8.2.6 **Reverb Furnace Slag**

The alloying metals commonly found in batteries (antimony, tin and arsenic) are not reduced as readily as lead in the former IS Reverb Furnace. Along with other impurities, these metals form a floating slag layer on top of the molten lead bath within the furnace. The slag layer has poor heat transfer properties and, therefore, acts as an insulating layer. Because a heavy slag layer reduces the furnace efficiency, the slag was continuously tapped off to maintain about a half-inch thick slag layer. The slag from the Reverb Furnace was fed to the former IS Blast Furnace for further refining because of its high lead and alloy content. Reverb furnace slag, a by-product of the Reverb Furnace lead recycling process, has applicable federal waste codes of D004, D005, D006, D007, D008, and D010 and a California Waste Code of 181. Reverb furnace slag was generated at an annual rate of 26,000 tons per year or an average rate of 2,167 tons per month.

Because the facility is no longer in operation, Reverb Furnace slag is no longer being produced. At the time of plan preparation, slag produced prior to idling the facility in March 2014 has been removed and sent for recycling at another facility.

2.8.3 Material Generated On-Site and Sent Off-Site for Reclamation, Disposal, or Purchase

The material generated on-site and sent off-site for reclamation, disposal, or customer purchase included polypropylene, blast furnace slag, separator material, and lead product. The polypropylene and separator material (including limited amounts of rubber from battery cases

and separator envelopes) are recyclable by-products and the blast furnace slag is a waste by-product. All hazardous wastes shipped from the facility are required to comply with 22 CCR 66262.10 and 66263.10.

2.8.3.1 **Polypropylene**

The polypropylene battery case material was crushed and segregated from other battery components in the former IS Sink/Float Separator. The plastic chips were segregated from the rinse water in a centrifuge. The chips were pneumatically blown into trailers prior to temporary storage in the Trailer Staging Area and shipment off-site to a plastic reclamation facility. Annual polypropylene generation was about 9,200 tons or 767 tons per month during recycling operations. The applicable federal waste code is D008. The applicable California Waste Code is 181. These materials were shipped as hazardous waste. Because the facility is no longer recycling batteries, polypropylene battery case material is no longer being produced. Polypropylene battery case material stored in trailers has been removed from the facility.

2.8.3.2 **Blast Furnace Slag**

Blast furnace slag is solid in form and has the following typical composition: carbon, calcium oxide, sodium oxide, silicon dioxide, iron oxide, and minor quantities of lead and other metal compounds. A portion of the blast furnace slag was returned to the Blast Furnace Feed Room as a flux and the remainder was stored in the Corridor portion of the Reverb Furnace Feed Room prior to shipment for off-site disposal. Slag generation was on the order of 10,100 tons per year or about 842 tons per month during recycling operations. The Blast Furnace slag is a California hazardous waste only (not a federal hazardous waste) with a California Waste Code of 181. Blast furnace slag was sent off-site in covered dump trucks which are compatible with the waste. Because the facility is no longer recycling batteries, Blast Furnace slag is no longer produced. As of the time of plan preparation, all Blast Furnace slag material generated prior to cessation of operations in March 2014 has been removed from the facility.

2.8.3.3 **Stormwater System and Surface Impoundment Sediment**

The Stormwater System and Surface Impoundment accumulate sediment that has the potential to be hazardous under federal waste codes of D004, D005, D006, D007, D008, and D010 and a California Waste Code of 181. The sediment is removed and recycled or disposed off-site. The stormwater system was reconstructed and upgraded to improve operation and provide secondary containment in late 2013 and early 2014. Facility decontamination during Phase 1 Closure will eliminate the potential for the former IS Units to directly contribute lead and other metals to surface sediment. However, anticipated Phase 2 Closure activities and Corrective Action activities, such as soil excavation, subsurface demolition activities and site capping will represent a potential source of contaminated sediment that must be anticipated. Therefore, stormwater system and surface impoundment (as well as Unit 46 (Pump Sump)) closure will be conducted in a stepped process.

- **Step 1** - Near the end of Phase 1 Closure, the stormwater system piping and structures, Unit 46 and surface impoundment will be flushed and cleaned to remove accumulated sediment (Step 1). The stormwater system configuration will remain unchanged following Step 1 and Exide will continue to collect and treat stormwater, and discharge treated stormwater to the sanitary sewer system in accordance with the existing industrial discharge permit. Wipe samples will be collected from the flow line at the down-slope end of each HDPE pipe run, at the bottom of each HDPE manhole and within Unit 46. Samples of the surface impoundment liner system will be collected during completion of soil sampling at 25% of proposed soil sample locations. Sample results will be utilized to evaluate the effectiveness of cleaning methods and provide initial information to determine if closure performance standards can be achieved, or if complete removal or closure with hazardous waste-in-place will be required during Phase 2 Closure activities.

- **Step 2** – Phase 2 Closure is expected to involve removal of subsurface soils and utilities. The extent of the Phase 2 activities will be dictated by the results of sampling conducted during Phase 1 Closure and, to the extent possible, are also expected to be completed concurrent with Corrective Action activities. Because of the expectation for Phase 2 Closure and Corrective Action activities to generate sediment, the stormwater system inlets will be retrofitted with erosion and sediment control measures to capture sediment before it enters the piping system. The specific types of controls will be a function of the scope of the Phase 2 Closure activities, the extent of storm water system removal and/or reconfiguration, and will be determined in consultation with DTSC during preparation of the detailed Phase 2 Contingent Closure Plan and Corrective Action remedy selection. Despite the implementation of erosion and sediment control measures during Phase 2 Closure, some limited amount of sediment will enter the system and, therefore, Exide will continue to collect and treat stormwater, and discharge treated stormwater to the sanitary sewer system in accordance with the existing industrial discharge permit. At the end of Phase 2, those components of the stormwater collection system HDPE pipes and manhole will be removed. As described in Section 3.2.4, If, after removing structures, foundations and subsoil down to 5-feet below surface, Exide demonstrates and DTSC concurs that not all contaminated subsoils can be practicably removed or decontaminated, Exide will submit an application to modify the Closure Plan to include creation of a new solid waste management unit as part of closure in accordance with 22 CCR 66270.42(c).

- **Step 3** – The Post Phase 2 Closure configuration will be dictated by the extent of soil removal activities and limits of capping required to complete Closure and Corrective Action. It is expected that majority significant portion of the existing stormwater system will be removed near the end of Phase 2 Closure. Exide will be required to collect and treat stormwater until sampling can demonstrate that

runoff meets requirements for discharge. DTSC review and approval will be required for the Phase 2 Closure and Corrective Action.

2.8.3.4 **Battery Chips/Separator Material**

As the batteries were processed through the RMPS, the case material was crushed and separated out. Battery cases are typically polypropylene. A small volume of battery cases are constructed of hard rubber. In addition, the separator which insulates the plates was crushed and separated out in the Sink/Float Separator (Unit 13). The battery chips and separator material were then separated from the rinse water in a centrifuge (Unit 80). Automotive battery separator material is typically polyethylene. Industrial battery separators vary from glass wool or cellulose paper to PVC (infrequent).

Once separated from the feed material, both the battery chips and separator material were stored temporarily in trailers in the Trailer Staging Area and sent off-site for recycling. The box trailers were loaded at the plastics loading area at the RMPS Building shown on Figure 2.2. Battery chips/separator material which cannot be separated from the feed material were charged into the Reverb Furnace. The applicable federal waste codes of D002, and D008; California Waste Code of 181; and recycle code H039 apply to the battery chips/separator material. Battery chips/separator material was generated at about 2,600 tons per year or an average rate of 217 tons per month during recycling operations.

Because the facility is no longer operating, battery case or separator material is no longer produced. Battery case and separator material stored in trailers have been removed from the facility.

2.8.3.5 **Lead Product**

When Exide was operating, lead from the furnaces was refined in the refining and receiving kettles to meet customer specifications. The refined lead was pumped into molds where it was

allowed to harden prior to shipment. The lead product is not a hazardous waste and was shipped under a bill of lading. Lead product was shipped off-site in covered van trailers. The facility is no longer producing lead; however, when Exide ceased operations in 2014, solidified lead remained within the refining and receiving kettles. As part of closure, Exide must remove the lead in the kettles before it can decommission the kettles. Exide will remove lead from kettles containing more than 12 tons of lead with the preferred alternative identified in the Environmental Impact Report.

Date: November 2015

2.9 CLOSURE PLAN CERTIFICATION

Authorization from a responsible corporate officer for a duly authorized representative to complete the certification is provided in Appendix Y.

The following certification complies with CCR 66270.11(d):

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: JOHN S HOGARTH

Company: EXIDE TECHNOLOGIES

Title: PLANT MANAGER.

This Closure Plan contains certain edits required by the Department of Toxic Substances Control (DTSC). Exide Technologies and Advanced GeoServices believe some of the edits are technically and regulatorily inconsistent, and/or factually historically inaccurate. Exide and Advanced GeoServices have executed the required certifications with the understanding that these edits will be addressed through the public comment period.

3.0 GENERAL CLOSURE APPROACH

3.1 CLOSURE APPROACH

Closure of the site will be conducted in two phases. Phase 1 includes inventory removal; unit decontamination and removal; soil, soil gas and floor/pavement sampling; and decontamination and deconstruction of buildings containing former Interim Status units to grade. Interim Closure Performance Standards are presented for Phase 1. Phase 2 addresses below grade impacts from former Interim Status unit operations. Final Closure Performance Standards for Phase 2 closure are to be developed to be protective of human health and the environment as demonstrated by a site wide DTSC-approved Health Risk Assessment.

At some point it will become prudent to integrate the closure and corrective action processes as the closure and clean-up performance standards are similar for each process. The closure and corrective action processes are respectively required to close the Interim Status units and appurtenant structures and to clean up the facility fence line to fence line in a manner that controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post closure/clean-up escape of hazardous waste constituents, chemicals of concern, leachate, contaminated rainfall or waste decomposition products to the ground or surface water or the atmosphere. The Phase 2 closure activities will be coordinated with the on-going site-wide corrective action. In Phase 2, integrated clean-up goals and closure performance standards will be developed and engineering and institutional controls will be designed. These measures will be tailored to mitigate adverse risk to human health and the environment posed by the site-wide nature and extent of any remaining hazardous waste constituents or chemicals of concern. A site-wide Health and Ecological Risk Assessment will be conducted to estimate the cumulative cancer risk, non-cancer hazard and adverse effects of lead remaining at the site, to potential future receptors, prior to and after the appropriate engineering and institutional controls have been implemented at the site. Cumulative cancer risks to potential future receptors at the site shall not exceed a level determined to be acceptable by DTSC management, which is within the risk management range (10-6 to 10-4), and a non-cancer hazard of 1. The 95% UCL of the

mean of lead levels in dust/soils available for exposure at the site should not exceed 80 ppm for a potential residential (onsite or off-site receptor) and 320 ppm for a commercial/industrial worker. Contaminants left in place should be monitored using the appropriate operation and management (O&M) controls to ensure that human health or the environment are not adversely affected.

3.1.1 General

Closure activities at the Exide facility will meet the Federal and State of California Closure and Post-Closure requirements in California Code of Regulations, title 22, division 4.5, chapter 15, article 7. To meet these standards Exide will close and provide post-closure care in accordance with the following Closure Performance Standards in 22 CCR 66265.111.

(a) Minimizes the need for further maintenance, and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated rainfall or run-off, or waste decomposition products to the ground or surface waters or to the atmosphere, and

(c) Complies with the closure requirements of this chapter 15. including, but not limited to, the requirements of sections:

66265.197 Closure and Post-Closure Care for Tank Systems,
66265.228 Closure and Post-Closure Care for Surface Impoundments,
66265.258 Closure and Post-Closure Care for Waste Piles,
66265.310 Closure and Post-Closure Care for Landfills,
66265.351 Closure of Incinerators,
66265.381 Closure of Thermal Treatment Units,
66265.404 Closure of Chemical, Physical, Biological Treatment, and
66265.1102 Closure and Post-Closure Care of Containment Buildings.

The closure activities will minimize the need for further maintenance by removal of all contaminated equipment, structures, or buildings and all hazardous waste and residues to the maximum extent practical as determined by DTSC. Exide will maintain a log of everything that is removed from the facility. The log will include the date of removal, description of material, identification of area removed from, results of decontamination confirmation sampling, waste characterization, destination and truck identification. If DTSC determines not all hazardous waste and residues can be removed, Exide will; control, minimize or eliminate to the extent necessary to protect human health and the environment the post-closure escape of:

- hazardous waste,
- hazardous constituents,
- leachate,
- contaminated rainfall or run-off, and
- waste decomposition products

to the ground, surface water, groundwater or atmosphere.

The general process for closure will occur in two phases. Phase 1 represents those activities necessary to close the former IS units (Closure) and Phase 2 represents those activities selected to address impacts to soil and groundwater caused by the former IS units (Contingent Closure). As described in greater detail herein, Phase 1 (Closure) is well known and easily quantified. Phase 2 (Contingent Closure) activities will be further defined based on subsurface sampling results completed during Phase 1 and appropriate corrective measures have determined.

The general steps for Phase 1 (Closure) and Phase 2 (Contingent Closure) are as follows:

PHASE 1 - CLOSURE

- Removal and management of all hazardous waste (inventory) and residuals at the facility at the time of closure (Section 5.2)
- Unit decontamination to meet specified performance standards (Section 6.0)
- Confirmatory sampling of each unit; both former and historic (Section 7.1 to 7.7)
- Removal of units (Section 7.8)
- Containment Area and building decontamination (Section 8.0)
- Confirmatory sampling of containment area and building (Section 9.0)
- Soil and soil gas sampling (Section 10.0)
- Building deconstruction (roof and walls to grade) (Section 11.0)
- Decontamination of unregulated areas (Section 12.0)
- Stormwater system decontamination (Section 6.7)

PHASE 2 - CONTINGENT CLOSURE

- Concrete floor and pavement removal and management (Section 16.3)
- Soil removal and disposal (Section 16.3)
- Excavation of stormwater pipe (Section 16.3)
- Confirmatory soil sampling (Section 16.4)
- Restoration (Section 16.5)
- Contaminated soil boundary markers (Section 16.9)
- Treatment and capping waste in-place (Section 16.11)

General procedures for each activity are provided in Sections 5 through 16. Detailed information for each unit and a work breakdown structure (WBS) for closure and an assumed contingent closure of each unit are provided in Appendix D.

Post-Closure is addressed in Section 21.0. Contingent Post-Closure is addressed in Section 22.0.

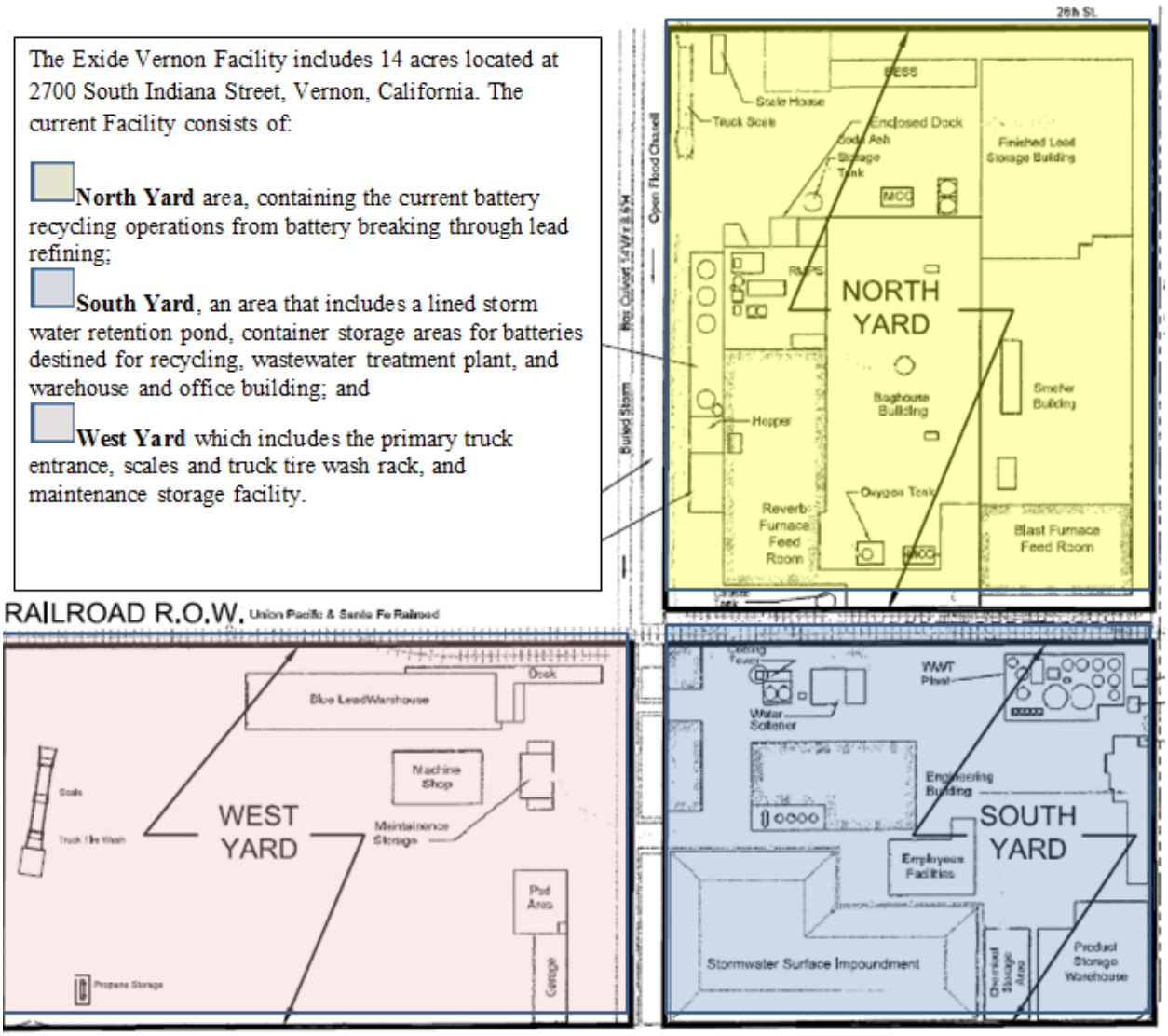
The sequence of Phase 1 closure activities is addressed on a unit by unit basis in Section 4.0.

3.1.2 Contingent Closure (Phase 2) Excavation Rationale

The facility has been in operation since 1922 and is known to have impacts to soil and groundwater caused by historic operations and pursuant to RCRA regulations; those historic impacts are being addressed through the Corrective Action (CA) process. The CA is in the RCRA Facility Investigation (RFI) stage, which will be followed by a Corrective Measures Study (CMS), remedy selection and Corrective Measures Implementation. The CA is being conducted pursuant to the February 25, 2002 Corrective Action Consent Order (CACO) between Exide and DTSC. The following text provides a summary of current and historical conditions and identifies areas of contamination that will be addressed by Exide under the Corrective Action Order and Health and Safety Code 25200.10.

3.1.2.1 **Recent Operations**

This Section is based on information from the 2012 Current Conditions Report for the Exide Facility. The Exide Facility has ceased operations and is currently in the closure process. During the early 1980s, the Facility was the subject of a major modernization and reconstruction project that resulted in the cessation of handling and processing activities not related to lead recycling (i.e., secondary aluminum smelting, zinc alloying and metals extrusion). The Raw Material Processing System (RMPS) and raw material storage building, new smelter building and baghouse area structures were all constructed during 1981 and 1982 in the North Yard. The lined "Storm Water Retention Pond" (SWMU A-24 and IS Unit 78) in the South Yard was constructed in 1984. The figure below provides a map of the recent facility layout.



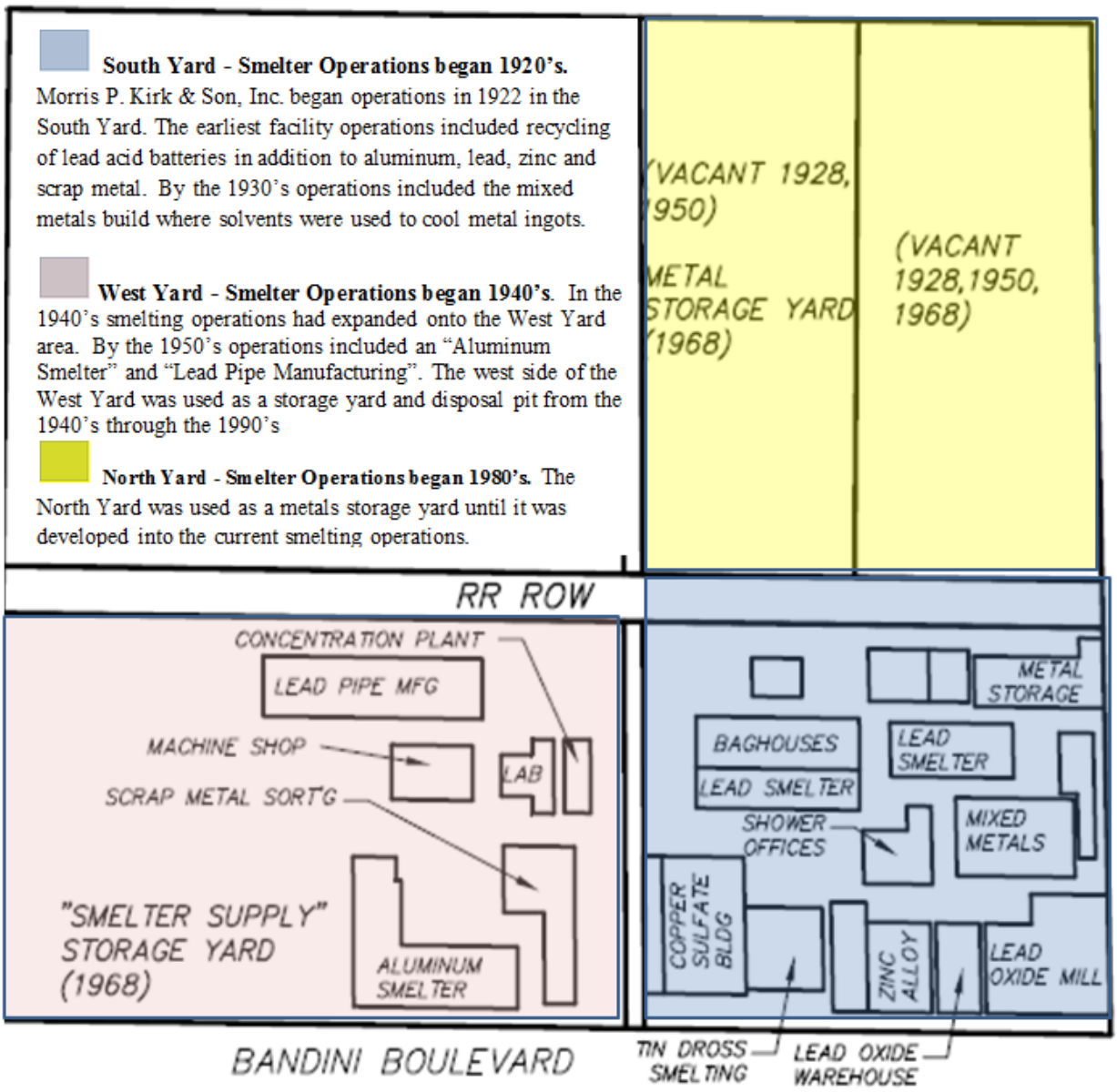
Recent Facility Layout

The Exide facility was a resource recovery operation. Since 1979 operations have been limited to recycling lead-bearing scrap materials obtained from spent lead-acid batteries and lead bearing scrap primarily associated with battery manufacturing related operations. The reclaimed lead is used to produce marketable lead and lead alloys. The metal recovery process used at the Facility is commonly referred to as secondary lead smelting and refining. The Facility received spent used) lead-acid batteries and other lead-bearing materials and recycled them to recover lead and polypropylene. The sulfuric acid in the batteries was recycled and used in the wastewater

treatment system. The Facility had an average production of 100,000 to 120,000 tons of lead per year of batteries.

3.1.2.2 **Historical Operations**

Morris P. Kirk & Son, Inc. began operations in 1922. Based on a 1928 Sanborn Map during this time frame, the Facility operations were limited to just the South Yard area and consisted of four labeled structures, identified as “Metal Storage”, “Smelter”, “Oxide Plant” and “Office”. No specific information is known about the earliest facility operations except that the Facility recycled lead acid batteries in addition to aluminum, lead, zinc and scrap metal. Those portions of the South Yard not covered by buildings in a 1928 aerial appear to be utilized for material stockpiling and related operations. See the figure below for the historical facility layout.



Based on a 1938 aerial photograph, Facility operations grew since 1928 to include buildings covering nearly the entire South Yard. A 1946 aerial photograph shows that operations had expanded onto the West Yard area and includes buildings identified in a 1950 Sanborn Map as "Aluminum Smelter" and "Lead Pipe Manufacturing". A review of the 1946 Standard Metal Directory identifies that the Facility included an aluminum smelter; battery lead smelter; babbitt (Babbitt metal is a type of metal historically used for bearings (such as in rail road car wheels) that contains lead, tin, antimony and other metals) and solder manufacturing processes; scrap

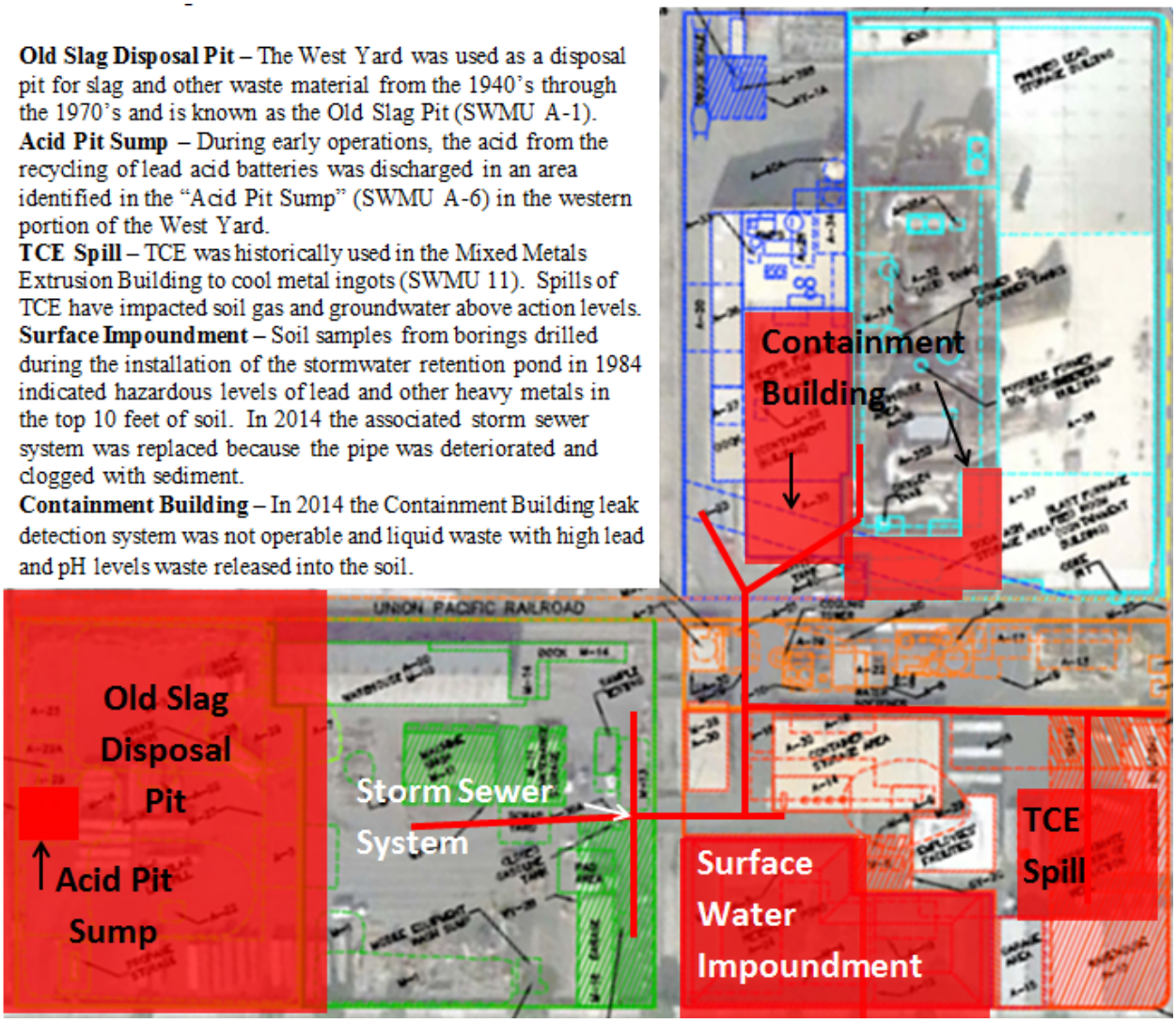
iron and metal dealership; and zinc smelter. The lead acid battery recycling operations would have included an operation that involved the separation of the lead, acid and casing components.

During early operations, the acid is reported to have been discharged in an area identified in the RCRA Facility Assessment (RFA) (DTSC, 1990) as the "Acid Pit Sump" (SWMU A-6) in the West Yard. As stated in the Phase 2 RFI Report (AGC and E2, 2006a and 2006b), the earliest aerial photographs (1928 through 1946) indicate that areas from 0.5 acres to 1.5 acres in the extreme portions of the West Yard are disturbed – these are identified in the RCRA Facility Assessment (RFA) (DTSC, 1990) as the "Old Slag Pit" (SWMU A-1). A 1940's photographic record appears to limit the filled area to the West Yard and within property boundaries. The Facility is clearly bounded by roadways to the south and east, by a railroad to the north and by a distinct property limit to the west. These boundaries have been confirmed to be within fenced or controlled limits. By 1952, some areas of disturbance still appear in the West Yard but by 1968 only two small areas totaling 0.3 acres appear to be disturbed. By 1976, the entire West Yard appears to be paved.

3.1.2.3 **Past Investigations**

In 1990 A RCRA Facility Assessment (RFA) was conducted by DTSC staff. The RFA identified 38 Solid Waste Management Units (SWMUs) and two Areas of Concern (AOCs) and determined that a number of units at the Vernon Facility had evidence, or a high likelihood, of a release of hazardous substances while in operation. During subsequent RCRA Facility Investigations DTSC also determined that hazardous waste or constituents had migrated or threatened to migrate, from the Vernon Facility into the environment through soil, surface water, groundwater, and air pathways. Major areas with hazardous levels of soil contamination are shown on the figure below.

Old Slag Disposal Pit – The West Yard was used as a disposal pit for slag and other waste material from the 1940's through the 1970's and is known as the Old Slag Pit (SWMU A-1).
Acid Pit Sump – During early operations, the acid from the recycling of lead acid batteries was discharged in an area identified in the "Acid Pit Sump" (SWMU A-6) in the western portion of the West Yard.
TCE Spill – TCE was historically used in the Mixed Metals Extrusion Building to cool metal ingots (SWMU 11). Spills of TCE have impacted soil gas and groundwater above action levels.
Surface Impoundment – Soil samples from borings drilled during the installation of the stormwater retention pond in 1984 indicated hazardous levels of lead and other heavy metals in the top 10 feet of soil. In 2014 the associated storm sewer system was replaced because the pipe was deteriorated and clogged with sediment.
Containment Building – In 2014 the Containment Building leak detection system was not operable and liquid waste with high lead and pH levels waste released into the soil.



The significant areas of soil and groundwater contamination were identified in the:

- 1990 RCRA Facility Assessment (RFA),
- 2002 Corrective Actions Consent Order (CACO),
- 2012 Current Conditions Report that summarizes six Phases of RCRA Facility Investigations (RFIs),
- Interim Corrective Measures for the Surface Water, TCE Spill, and Storm Sewer Replacement, and

- Current reports from Exide staff regarding failed leak detection and liner systems in the Surface Impoundment and Containment Buildings.

Major areas of significant soil contamination were described in the 2012 Current Conditions report as follows:

Earthen Disposal Pit (Old Slag Landfill) – SWMU A-1 (West Yard)

Located in the southwest section of the West Yard, the Old Slag Landfill (pit) was used by previous operators of the Facility for disposal of blast furnace slag from secondary smelting of lead, aluminum and zinc. The pit consists of an earthen disposal pit located in the southwest section of west yard. The pit was filled and paved over as facility operations expanded over the years. Information contained in the RFA from plant personnel estimated the size of the pit to be approximately 50 feet in diameter and 20 feet deep. Based on a more detailed review of historic aerial photographs and subsurface investigation activities during the Phase 2 RFI, the footprint of the pit is over 1.5 acres and maximum depths were greater than 40 feet. The estimated quantity of slag within the pit on-site is estimated to be 60,000 to 80,000 cubic yards. Boring logs indicate slag and metal ingots were recovered from the borehole drillings. According to former facility personnel, pit operations were discontinued in approximately 1973. However the area continued to be used as a waste pile for slag material as noted in the 1990 RFA.

Earthen Acid Dump Pit – SWMU A-6 (West Yard)

The pit was located near the middle of the property at the western fence line. The pit was used by previous operators of the Facility for the disposal of acid from spent batteries. The pit has been filled and is presently covered with asphalt pavement. The acid dump pit consisted of an earthen pit where spent acid and other unidentified wastes were deposited. There are no existing records of the type or quantity of wastes placed in the pit. Similarly, the exact size of the pit is

unknown. Use of the pit was discontinued prior to 1979 when Gould/GNB began operation of the Facility.

Old Mixed Metals Extrusion Building SWMU A-11 (South Yard)

The old mixed metals extrusion building was situated to the west of the engineering building. The building was approximately 10,000 square feet in size. The process performed in this area included the extrusion of metal bars and stock into various shapes (ingots). The building has been removed, and the area is now paved with asphalt. The 1968 Sanborn Map identifies a production well in the southwest corner of the mixed metals extrusion building. It is unknown exactly when operations were started in this location; however, the mixed metal operations were ceased in approximately 1978. During the operation of this unit, TCE was applied to metal bars as a cooling medium in the extrusion process. Existing monitor wells in the vicinity of the mixed metal extrusion building (MW-11, MW-14, MW-15 and PW-2) have detected elevated TCE since the time of their installation in 1986 (MW-11) and 1987 (MW-14, MW-15 and P-2).

Stormwater Surface Impoundment – SWMU A-24 (South Yard)

The Stormwater Surface Impoundment was used as rainwater retention pond and secondary containment system for several units. It is located on the southern boundary fence at the location of the old zinc alloy production area. The pond was constructed in 1984 and was proposed for permitting as a hazardous waste Surface Impoundment in the RCRA Hazardous Waste Permit application. Historic Sanborn Maps (1950, 1968 and 1976) indicate that in the footprint of the pond, former Facility operations included not just zinc alloying operations, but also areas identified as “tin dross smelting”, “copper sulfate building” and “ball mill”, as well as, fuel dispenser and sulfuric acid tanks. Results of soil sampling conducted prior to construction of the pond indicate that soil remediation was conducted to depths typically 6 to 8 feet deep within the footprint of the pond. Subsequent to remediation, the pond was excavated to its final depths (approximately 14 feet) and lined with geomembrane liners and leak detection system. The pond liner and leak detection system were upgraded in 2000 to the existing 60 mil HDPE liner system.

Sediment samples collected from within the rainwater retention pond since operation of the pond began in late 1984/early 1985 have indicated hazardous concentrations of lead. DTSC has also expressed concern that the rainwater retention pond functioned as secondary containment for some of the interim status hazardous waste tanks during the 1980s and into 1990s. The rainwater retention pond no longer serves as secondary containment, although sediment in the pond can still test as TTLC or STLC hazardous.

Currently the Surface Impoundment does not meet the design standards for hazardous waste surface impoundments, because it cannot accommodate the drainage from a 1000 year 24 hour storm event, does not have an adequate factor of safety for slope stability, and does not have an operable leak detection system.

Stormwater Management System- (Site Wide Storm Sewer Pipe)

In March of 2013 an inspection of the Facility wide storm sewer found significant blockage of the sewer system with sediment. The sediment contained hazardous levels of lead in excess of 100,000 mg/kg. This prompted an Emergency Response Interim Measure Work Plan (ERIMWP) for the Storm Sewer Management System Removal. Implementation of the ERIMWP was required by the Memo of Understanding and Stipulation and Order (Docket HWCA:P3-12/13-010) between the California Department of Toxic Substances Control (DTSC) and Exide. ERIMWP implementation included removal of approximately 3,100 linear feet of original stormwater system piping and 33 structures and abandonment in-place of approximately 600 linear feet of original stormwater system piping. Excavation depths ranged from 2.5 to 14.5 feet in depth. Removal activities were substantially complete by March 2014.

Shallow Soil Contamination (Site Wide)

The ERIM Completion Report April 2014 contained pre and post excavation sampling that showed hazardous levels of lead exceeding 100,000 km/kg or 10% lead by weight in the upper 10 feet throughout the South and West Yards. Post excavation sampling in the storm drain

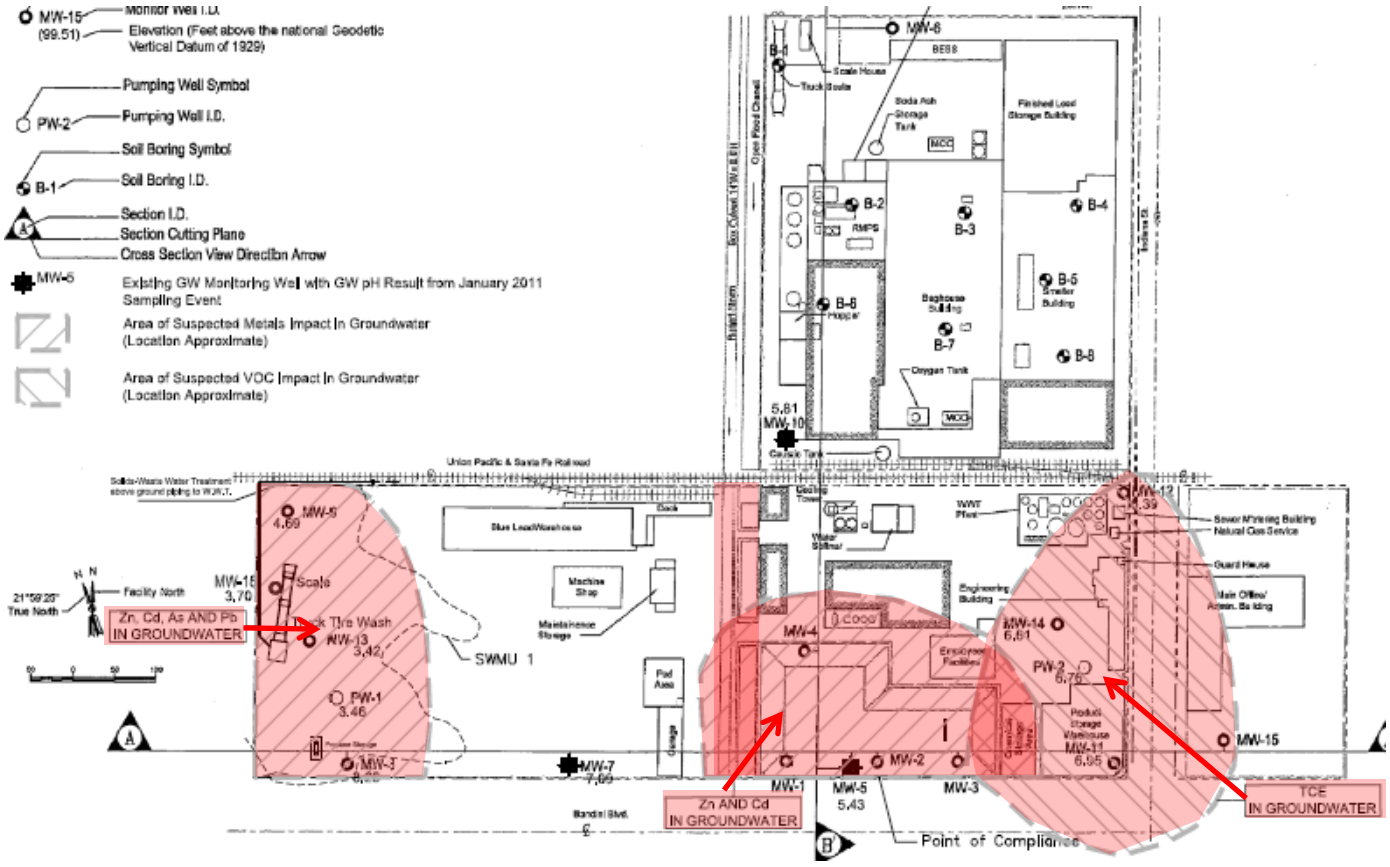
trench indicated hazardous levels of lead still remain in the soil below the storm drain. Significant contamination was found in the northwest portion of the South yard adjacent to the drainage channel, because the storm drain was sloped in the wrong direction allowing standing water and sediment accumulation in the storm drains. Significant deterioration of the original storm drain pipe was also found in this area. Additional fill material was identified in the North Yard. The borings identified a thin (1 to 3 feet thick) layer of fill over the North Yard Area. The fill was described as a brown silty sand with wire, metal, trash, wood and brick. No metals analysis was performed on the boring samples, but based on the description; it does not appear to be slag fill. Information obtained during the City of Vernon file review on September 17, 2012 included a summary of hand written soil lead concentrations apparently from soil being remediated in the North Yard in June 1980. The information indicates total lead concentrations up to 150,000 mg/kg.

Containment Building (North Yard)

In November 2014, the leak detection system for the Containment Building in the North Yard was determined by Exide staff to be inoperable. Further investigation found that the primary and secondary liner systems in the containment building had been breached and hazardous levels of lead were found in the underlying soil. Investigation of this area is ongoing.

Groundwater Contamination (South and West Yards)

With the exception of the containment building the areas of major soil contamination have also impacted groundwater. Soil and groundwater impacts due to the liner system failure under the Containment Building are currently under investigation. Areas of groundwater impacts from heavy metals, acid, and VOCs are shown on the following Figure.



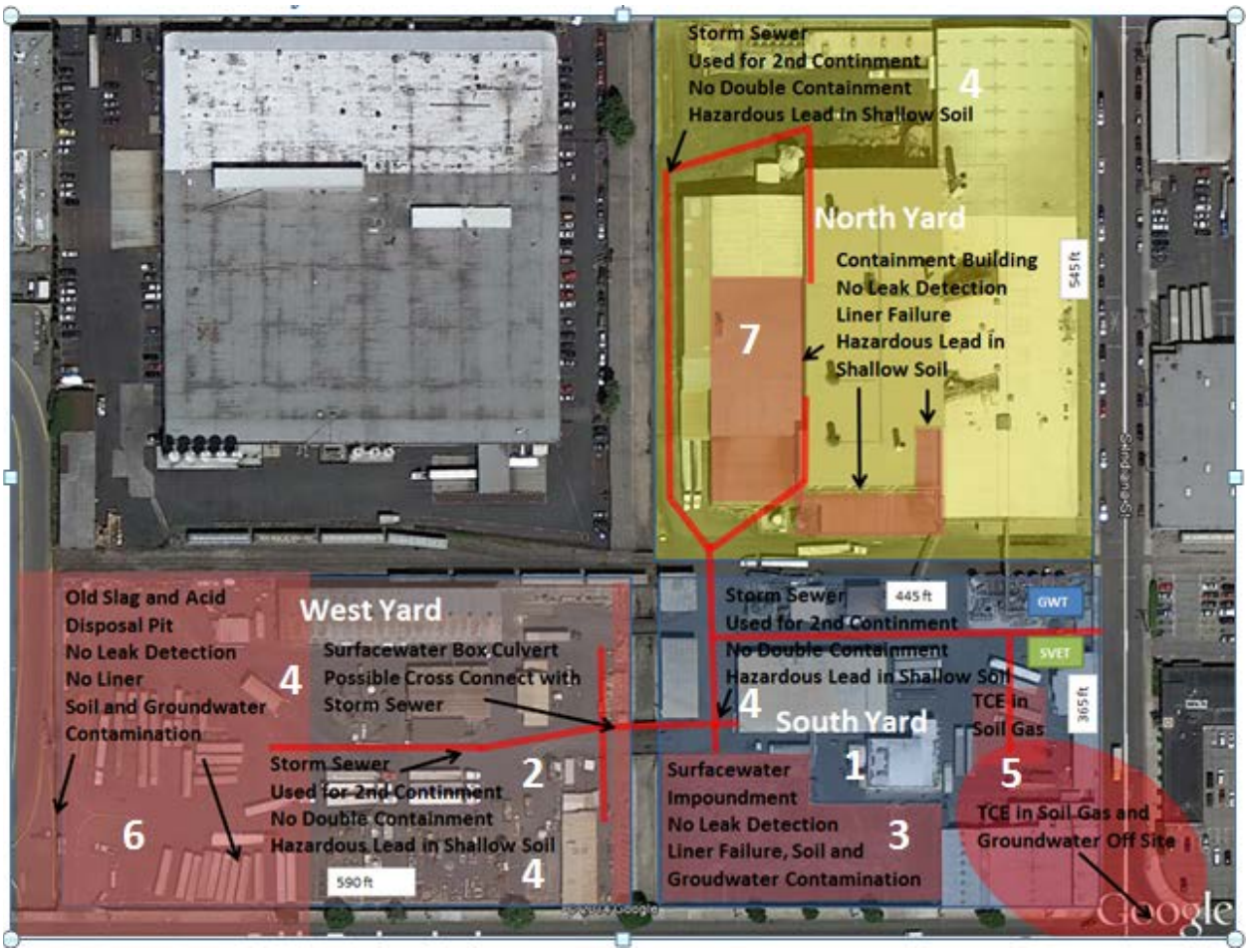
3.1.2.4 **Areas of Contamination to be addressed under Corrective Actions**

Based on previous investigation dating back to the 1980's and recent documented releases, the following Areas of Contamination were identified by DTSC staff to be addressed under the Corrective Action process:

1. The shallow soil in the South Yard is heavily contaminated with heavy metals from smelter operations starting in the 1920's.
2. The shallow soil in the West Yard is heavily contaminated with heavy metals from smelter operations starting in the 1930's.
3. Deep soil and groundwater are contaminated with heavy metals under the stormwater surface impoundment installed in the 1980's in the South Yard. In the early 1980's the surface impoundment was rebuilt due to a failed liner system.

Currently the leak detection system is not functioning and the surface impoundment does not meet the regulatory standards.

4. The associated stormwater pipe system was used for secondary containment for many units. In 2013 it was found to be clogged with sediment containing hazardous levels of lead and replaced. Cross connections with the storm sewer and other Units were also found. Hazardous levels of lead and other metals deposited due to leaks in the sewer pipe were left in place after the Storm Sewer System Interim Corrective Measures competed in 2014.
5. Soil gas and ground water were contaminated from solvents used between the 1930's to 1980's in the mixed metals extrusion process in the east side of the South Yard.
6. Battery acid disposed of in the Old Slag Disposal Pit has mobilized heavy metals in the waste and contaminated soil and groundwater. The disposal pit in the western portion of the west yard contains approximately 71,700 cubic yards of fill including hazardous slag material at depths up to 40 feet below the ground surface.
7. Shallow soil in the North Yard was contaminated from a historical metals storage yard. Current operations have contaminated shallow soil and may have contaminated deeper soil and groundwater due to a failure of the leak detection and liner system in the Feed Material Containment Building.



3.1.2.5 **Phase 2 Contingent Closure**

The Phase 2 (Contingent Closure) scenario presented herein has been developed based on the assumption that the concrete floor (nominal thickness 0.8 feet) and 5 feet of underlying soil beneath all former IS units will be excavated and sent for off-site disposal. (In the Reverb Feed Room, two layers of concrete floor were assumed.) Phase 2 (Contingent Closure) activities will be further defined based on subsurface sampling results completed during Phase 1 and after appropriate corrective action goals have been determined. This Phase 2 (Contingent Closure) further assumes that hazardous waste cannot be removed beneath most former IS units following 5 feet of soil removal and therefore, assumes that a RCRA Cap must be installed over portions of the North and South Yard. Phase 2 (Contingent Closure) is expected to be modified, with DTSC

approval, to accommodate the relationship between the selected Corrective Action measures and subsurface impacts from the former IS units. Clean up levels and remedy selection under the Corrective Action process includes an opportunity for public review and comment that is separate from the Closure process.

3.1.3 Proposed Units and Ancillary Sumps

Centrifuge No. 2 (Unit 81), RMPS Acid Storage Tank (Unit 82), Shredder (Unit 83), Vibrating Screen (Unit 84), Industrial Cell Extraction (Unit 85), Industrial Cell Shredder (Unit 86), Neptune Scrubber Tank (Unit 88), Mud Tank Area Sump 2 and Oxidation Tank Area Sump were proposed as part of the Part B Permit Application and/or a Class 2 Interim Status Permit Modification, but were not installed. These units are not included in the Closure Plan as they were never installed.

3.2 CLOSURE PERFORMANCE STANDARDS

Closure performance standards will comply with 22 CCR 66265.111 as discussed in Section 3.1. Pursuant to 22 CCR 66265.114, all hazardous residue, equipment, ancillary equipment, secondary containment areas, structures and soil associated with former IS Units shall be properly disposed of, or decontaminated by removing all hazardous waste and hazardous waste residues. To confirm that equipment, structures, and buildings have not been or are no longer contaminated with hazardous constituents, a surface sample must be taken. Procedures will vary depending on the type of contamination. The following document will be used for guidance: Compendium of Waste Sampling Procedures, EPA/540/P-91/008, as well as Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Office of Solid Waste and Emergency Response. When no SW-846 methods or 22 CCR Chapter 11 methods are available, then other methods approved by reputable organizations (e.g., ASTM, AOAC) may be used. Exide may propose an alternative method which should be reviewed and approved by the Department. The performance standards in Appendix BB are used as the clean-up standard. It is recognized that for small pieces of equipment (e.g., pumps and filters that have been in contact

with hazardous wastes, it is very difficult to gain access to interior surfaces. The use of wipe samples to confirm decontamination is inappropriate. The analysis of the rinsewaters or other rinse solvents to the performance standards in Appendix BB is acceptable proof that small equipment has been decontaminated and historic IS Units shall be properly disposed of, or decontaminated by removing all hazardous waste and residues to background concentrations.

Closure of the site will be conducted in two phases. Phase 1 includes inventory removal; unit decontamination and removal; soil, soil gas and floor/pavement sampling; and decontamination and deconstruction of buildings containing former Interim Status units to grade. Interim Closure Performance Standards are presented for Phase 1. Phase 2 addresses below grade impacts from former Interim Status unit operations. Final Closure Performance Standards for Phase 2 closure are to be developed to be protective of human health and the environment as demonstrated by a site wide DTSC approved Health Risk Assessment.

The Closure Plan will achieve the performance standards through a combination of requirements as described in the following subsections. In most instances, the former Interim Status Unit (IS Unit) and its ancillary equipment will be removed during Phase 1 Closure. Several IS Units, including the West Yard Truck Wash (Unit 87), Pump Sump (Unit 46) and stormwater system, surface impoundment (Unit 78), and a few key floor tanks/sumps will be partially removed and cleaned, but must remain operational through Phase 2 to manage stormwater runoff and provide a location to clean vehicles exiting the Site. Similarly, secondary containment area and building floors must remain in-place to prevent erosion of subsurface soils until Phase 2 soil excavation activities are completed. All hazardous waste and residues will be removed in accordance with the closure performance standards or incorporated into areas being closed with a waste-in-place designation or managed as part of the site-wide Corrective Action.

The specific scope of the Phase 2 Closure activities will be determined based on the results of Phase 1 Closure sampling results for those former IS Units (and ancillary equipment/component) not removed as part of Phase 1 Closure and underlying soils. Phase 2 Closure is expected to include soil excavation to clean-up levels and Closure Performance Standards, demolition of secondary containment areas and foundations remaining from Phase 1 and exhibiting hazardous characteristics, or required for removal to access underlying hazardous soils, site grading and reconfiguration or removal of the stormwater collection and management system. Stormwater runoff from the entire Site, including any of the former IS Units or their ancillary components and equipment remaining in-place after Phase 1, must still be collected and treated until they are addressed under Phase 2 Closure and achieve the Closure Performance Standards.

While Closure of a specific former IS Unit will be deemed complete when the Phase 2 Closure Performance Standards are achieved, additional cleaning, excavation, demolition or other remedial measures may be warranted as part of site-wide Corrective Action. The specific clean-up levels required under Corrective Action will utilize default levels approved by DTSC, background levels established through a site-specific or regional study approved by DTSC, and/or be established based on the results of a site-specific risk assessment. Establishing and implementing Corrective Action clean-up levels is not part of the Closure process and is not covered in the Closure Plan.

The facility subsurface, as a whole, is significantly contaminated. Initial findings of the RFI and information obtained during the RCRA Facility Assessment (RFA) have determined that the majority of the historic facility operations were conducted in the South Yard and eastern portions of the West Yard, while on-site disposal of slag and other waste materials occurred across the Site with significant amounts of material (up to 45 +/- feet) placed in a former quarry pit in the western portions of the West Yard. Operations in the North Yard appear to have been limited to shallow (generally <3 feet) filling with slag and battery breaking activities until the early 1980s when battery recycling operations were moved from the South Yard to the North Yard. RCRA regulated activities in the South

Yard since the early 1980s have been limited essentially to container storage, wastewater treatment and stormwater management.

Subsurface conditions in the South and West Yards reflect the intensive historic use in these areas and the former IS units within these areas are known or suspected to be underlain and surrounded by historic contamination subject to the CACO. Furthermore, DTSC has notified Exide that releases from the Containment Building in the North Yard have also occurred. Subsurface impacts (if any) from the former IS units situated in these areas would be indistinguishable from the pre-RCRA impacts when all or most of the site was unpaved and waste management activities were performed directly on the ground surface and without secondary containment, and waste was disposed on-site (Examples of this are the excavation of the stormwater surface impoundment in the early 1980s when lead impacted soil above hazardous levels was encountered to depths 6 to 8 feet below the ground surface, and the management of waste piles on the ground surface at multiple locations throughout the site). Efforts to discern between recent releases from former IS units and historic releases from historic units would likely be inconclusive and a relative waste of resources. Instead, Exide recommends using data collected as part of the CA program to develop sample screening and/or clean-up levels with the goal of achieving 1) clean closure for the facility as a whole (no restrictions), 2) closure with restrictions (industrial land use only), or 3) closure as a RCRA-hazardous-waste landfill.

The clean-up levels, despite having been developed under the CA program, would then be identified and used as Closure Performance Standards for implementation of the Closure Plan. This may result in a significant modification to Exide's Closure Plan, once approved by DTSC, and would require the appropriate steps to complete (i.e., notifications, document submittals, fees, public comment period, etc.).

Management of tanks, equipment and deconstruction material is summarized in Table 3.1. Phase 1 Performance standards for each unit are summarized in Table 3.2.

3.2.1 Closure Performance Standard for Former IS Tanks and Ancillary Equipment

The former IS Units regulated as tanks are constructed from steel, plastic or concrete and had ancillary components consisting of piping, controls, ladders and platforms, and miscellaneous pieces of equipment, as described in greater detail in Appendix D. The tanks are supported on concrete pedestals or supports and secured using anchors (bolts, brackets and tie downs). The majority of the tanks are located within secondary containment areas constructed from concrete with chemical resistant coating and sump(s) for collecting liquid.

Table 3.2 provides a detailed list of each former IS Unit, the unit type, material of construction, cleaning techniques and disposition at the end of Phase 1 Closure, and Closure Performance Standards. As shown on Table 3.2, former IS Tanks can be removed and sent for reuse at another Exide facility; removed and sent for off-site recycling; removed and sent for off-site disposal, or remain in-place. The Closure Performance Standard for each is provided below.

3.2.1.1 **Closure Performance Standards for Removal and Reuse**

The Closure Performance Standards in 66265.111(c) require Exide to close tank systems in a manner that complies with the closure and post-closure requirements in 66265.197. Section 66265.197 (c) requires Exide to remove or decontaminate all waste residuals, contaminated equipment components (liners, etc), contaminated soil, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless 66261.3(d) applies. The closure plan, closure activities, a cost estimates for closure, and financial responsibility for tank systems will meet all of the requirements specified in articles 7 and 8 of chapter 15.

Three tanks (former IS Units 12, 55 and 79) may be salvaged and sent to Exide facilities in Canon Hollow, Missouri or Muncie, Indiana for reuse if sampling analysis results confirm concentrations of potential contaminants are less than the performance standards in Appendix BB. Former IS Unit 12, Santa Maria Paste Thickening Unit, has never been used. Former IS Units 55 (WWTP Flocculation Tank) and 79 (RMPS Surge Tank) have nearly all of their design

life remaining. In accordance with 22 CCR 66265.197, all waste residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with waste will be removed, and managed as hazardous waste unless 22 CCR 66261.3(d) applies. Tanks and ancillary equipment proposed for removal and reuse will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the waste residues, contaminated containment system components, contaminated soils, or structures and equipment contaminated with waste exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be removed and managed as a hazardous waste, or decontaminated.

3.2.1.2 **Closure Performance Standard for Recycling**

Steel tanks and metallic ancillary equipment and components will be removed or decontaminated, and managed as a hazardous waste, unless 22 CCR 66261.3(d) applies. Scrap metal that is not contaminated with a hazardous waste, such that the metal does not exhibit any characteristic of a hazardous waste under California Code of Regulations, division 4.5, chapter 11, article 3, does not meet the definition of hazardous waste under 22 CCR 66261.3, and therefore is not a hazardous waste per 22 CCR 66265.197. In accordance with 22 CCR 66265.197, Exide will manage the tanks and ancillary equipment as hazardous waste, unless 22 CCR 66261.3(d) applies. Tanks and ancillary equipment proposed for designation as Scrap Metal will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the waste residues, contaminated containment system components, contaminated soils, or structures and equipment contaminated with waste exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be removed and managed as a hazardous waste, or decontaminated.

3.2.1.3 **Closure Performance Standards for Off-Site Disposal**

Tanks and ancillary equipment (including piping) and components not retained for reuse, recycling or remaining in operation after Closure will be removed and disposed off-site. The Closure Performance Standard for tanks and equipment destined for off-site disposal will be management as a hazardous waste and having residual contents removed and be sufficiently clean of residue that could create dust during sizing, loading/unloading and transportation, or be wrapped in plastic. Tanks and equipment intended for disposal shall be characterized per receiving facility requirements. In accordance with 22 CCR 66265.197, Exide will manage the tanks and ancillary equipment as hazardous waste, unless 22 CCR 66261.3(d) applies. Tanks and ancillary equipment proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the tanks and equipment contaminated with waste exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits.

Tanks and equipment must meet CalTrans and DTSC requirements for transportation and recordkeeping. Large pieces of equipment destined for disposal that are not fully contained in a covered roll-off shall be wrapped in plastic before leaving the facility.

3.2.1.4 **Closure Performance Standards for Remaining Tanks and Equipment**

The Pump Sump (former Unit 46) and ancillary stormwater piping system, and the West Yard Truck Wash (former Unit 87) will remain intact and fully operational into Phase 2. Additional discussion is provided in Section 3.2.4 regarding Closure Performance Standards for the stormwater management system. The West Yard Truck Wash concrete pad and sump will be the subject of chip sampling after completion of initial (Phase 1) cleaning. The Closure Performance

Standard for the West Yard Truck Wash concrete pad and sump will be removal, and management as a hazardous waste unless 22 CCR 66261.3(d) applies. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits. Concrete pads and sumps proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the concrete pads or sumps exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste. Exide will already be required to collect and treat all wash water and sediment accumulating in the West Yard Truck Wash through completion of Phase 2 Closure.

The remaining tanks staying in operation after Phase 1 (Battery Dump Bin Sump (former Unit 5), RMPS Floor Sump (former Unit 6), Containment Building Truck Wash Sump (former Unit 51), and WWTP Sump (former Unit 62)) will have had stainless steel liners, pumps, piping and other ancillary equipment removed during Phase 1 and the concrete walls and bottom of the sump will be pressure washed and chip sampled. These former IS units, along with the other ancillary sumps summarized in Table 1.3 (which will also be cleaned and chipped sampled), situated at low points and former basement areas (see Figure 2.11), are required for capturing and removing stormwater runoff, and water generated during dust suppression and wash down during Phase 2 Closure. The Closure Performance Standard for these tanks will be removal, and management as a hazardous waste unless 22 CCR 66261.3(d) applies. Tanks and sumps proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the tanks or sumps exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits.

3.2.2 Closure Performance Standard for Former IS Miscellaneous Units

As identified on Table 3.2, miscellaneous units and their ancillary equipment and components may be salvaged for reuse at another Exide facility, sent for recycling (e.g. steel) or sent for disposal (e.g. plastic and general debris). No former IS Miscellaneous Units are proposed to remain on-site after Phase 1 Closure. The performance standards for miscellaneous units shall be management as a hazardous waste unless 22 CCR 66261.3(d) applies.

The former IS Miscellaneous Units planned to be sent for reuse at another Exide facility are the RMPS Hammer Mill (former Unit 40); Rotary Kiln (former Unit 69); brick, burners and feed screws from the Reverb Furnace (former Unit 36); Blast Furnace crucible (former Unit 37), and twelve (12) kettles (former Units 89-91, 93-98 and 100-102). The kettles may also be recycled off-site. These former units or former unit components have all or most of their useful design life remaining. In accordance with 22 CCR 66265.114, Exide will remove all hazardous waste and residues from the IS Miscellaneous Units. IS Miscellaneous Units proposed for reuse at another facility will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the IS Miscellaneous Units exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste.

3.2.3 Closure Performance Standard for Former IS Containment Building and Containment Areas

The Closure performance standard for secondary containment areas and containment building walls and floors ("containment areas") is removal, and management as a hazardous waste unless 22 CCR 66261.3(d) applies. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits. Containment areas failing non-detect sampling results will be managed as hazardous waste.

In accordance with 22 CCR 66265.1102, Exide will remove the containment building components and containment areas, and manage them as hazardous waste unless 22 CCR 66261.3(d) applies. Waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the containment building components and containment areas exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste.

If, after removing structures, foundations and subsoil up to 5-feet below surface dependent on sampling results generated during Phase 1, Exide demonstrates and DTSC concurs that not all contaminated subsoils can be practicably removed or decontaminated, Exide will submit an application to modify the Closure Plan to include creation of a new solid waste management unit as part of closure in accordance with 22 CCR 66270.42(c).

3.2.4 Closure Performance Standard for Former IS Stormwater System and Surface Impoundment

As described in Section 2.8.3.3, the stormwater management system is integral to the continued collection and removal of stormwater, dust suppression water and wash water now and during Phase 1 and 2 Closure. Depending on timing with site-wide Corrective Action and receipt of all required permits and approvals for direct discharge of site stormwater, it may also be necessary to continue to collect and treat stormwater runoff after completion of the Phase 2 Closure. The Closure Performance Standard for the stormwater system including pipes, manholes and pump sumps is removal, and management as a hazardous waste unless 22 CCR 66261.3(d) applies. Closure Performance Standards for the stormwater management system must be achieved by the end of Phase 2 Closure or before Exide may discontinue collection and treatment of stormwater (whichever occurs first).

In accordance with 22 CCR 66265.197, Exide will manage the stormwater system as hazardous waste, unless 22 CCR 66261.3(d) applies. Waste residues, contaminated containment system components, contaminated soils, and structures and equipment contaminated with waste proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the stormwater system components exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste.

If, after removing structures, foundations and subsoil up to 5-feet below surface dependent on sampling results generated during Phase 1, Exide demonstrates and DTSC concurs that not all contaminated subsoils can be practicably removed or decontaminated, Exide will submit an application to modify the Closure Plan to include creation of a new solid waste management unit as part of closure in accordance with 22 CCR 66270.42(c).

Near the end of Phase 1 Closure, the stormwater system piping and structures, Unit 46 and surface impoundment will be flushed and cleaned to remove accumulated sediment (initial cleaning). Appropriate samples will be collected in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3.Results of the Phase 1 sampling will provide information regarding the effectiveness of cleaning efforts on the system, indicate if more aggressive cleaning is required to achieve Closure Performance Standards for portions of the system that may remain in-place following completion of Phase 2 Closure, and will be considered while developing Phase 2 plans for removal and reconfiguration of the stormwater system. Regardless of sample results that may exceed the closure performance standards, the stormwater system will remain operational into Phase 2; however, Exide must continue to collect and treat all stormwater through the temporary WWTP.

At the end of Phase 2, those components of the stormwater collection system, including the Unit 46 primary concrete tank, and surface impoundment will be removed. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits.

For the secondary containment of the stormwater system (EPDM layer and concrete manhole), the performance standard for the stormwater system components and up to 5 feet of soil dependent on sampling results generated during Phase 1 beneath the components is removal, and management as a hazardous waste unless 22 CCR 66261.3(d) applies.

The Closure Performance Standard for the stormwater surface impoundment is removal or decontamination of all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate,management as a hazardous waste unless 22 CCR 66261.3(d) applies, and minimization of the need for further maintenance. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits.

In accordance with 22 CCR 66265.228, Exide will remove or decontaminate all waste residues, comtaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste, unless 22 CCR 66261.3(d) applies. Waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the surface impoundment components exhibit characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be removed and managed as a hazardous waste, or decontaminated.

If, after removing structures, foundations and subsoil up to 5-feet below surface dependent on sampling results generated during Phase 1, Exide demonstrates and DTSC concurs that not all contaminated subsoils can be practicably removed or decontaminated, Exide will submit an application to modify the Closure Plan to include creation of a new soild waste management unit as part of closure in accordance with 22 CCR 66270.42(c).

3.2.5 Closure Performance Standards for Concrete Demolition Debris

Concrete building components not covered by Section 3.2.3 designated for deconstruction will be removed and disposed off-site. The performance standard for concrete destined for disposal is management as a hazardous waste unless 22 CCR 66261.3(d) applies. Characterization sampling will be performed as required by the disposal facility.

The Closure Performance Standard for concrete not associated with hazardous waste management units to remain in-place is non-detect sampling analysis results. If the test results fail, the concrete will be removed and disposed at the appropriate disposal facility. Contaminated concrete will be managed as hazardous waste if the appropriate sample results indicate the material exhibits characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits.

3.2.6 Closure Performance Standards for Steel Structures and Steel Debris

The Reverb Furnace Feed Room, Blast Furnace Feed Room, RMPS Building, Smelter Building, Baghouse Building, former Finished Lead Warehouse, Desulfurization Building, and Container Storage Areas 1, 2 and 3 will be deconstructed and removed. In accordance with 22 CCR 66265.1102, at closure of a containment building, all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate must be managed as a hazardous waste unless 22 CCR 66261.3(d) applies. The effectiveness of decontamination on metal building components, and structural steel

proposed for deconstruction and intended for off-site scrap metal recycling will be determined by the Closure Performance Standard. The Closure Performance Standard for metal building components and structural steel proposed for deconstruction and intended for off-site scrap metal recycling is management as a hazardous waste unless 22 CCR 66261.3(d) applies. The materials intended for off-site recycling will also meet waste stream characterization requirements for the facility receiving the materials. Steel proposed for recycling that does not meet the Closure Performance Standard will be sent to a hazardous waste recycling facility.

3.2.7 Closure Performance Standards for Equipment

Ancillary equipment and electrical equipment will be removed and may be salvaged, sent for recycling (e.g. scrap metal), or sent for disposal. The Closure Performance Standard for ancillary equipment and electrical equipment is the method detection limit (MDL) for wipe samples and/or rinseate or cleaning solution samples. Equipment that will be re-used on-site after Phase 2 Closure shall have sample results below the MDL for the equipment to be considered absent of hazardous constituents and deemed clean. If sample results are above the MDLs, Exide will have the choice of re-cleaning and re-testing or deconstruction and disposal. Contaminated equipment will be treated as hazardous waste and sent to an appropriately-permitted hazardous waste facility if the confirmation samples still exhibit hazardous waste characteristics even after decontamination. Ancillary equipment proposed for designation as 'non-hazardous' will be sampled using methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 and required under California Code of Regulations, title 22, division 4.5, chapter 11, article 3. If sampling indicates that the ancillary equipment exhibits characteristics of hazardous waste identified in California Code of Regulations, title 22, division 4.5, chapter 11, article 3, they will be managed as a hazardous waste.

3.2.8 Closure Performance Standard for Soils

The Closure Performance Standards for soil up to five feet beneath a unit is removal dependent on sampling results generated during Phase 1, and management as a hazardous waste unless 22 CCR 66261.3(d) applies.. STLC testing will not be required for constituents in samples with TTLC results less than 10 times STLC limits. Contaminated soil with hazardous characteristics, proposed for remediation during the Phase 2 Closure, will be managed as hazardous waste.

If, after removing structures, foundations and subsoil up to 5-feet below surface dependent on sampling results generated during Phase 1, Exide demonstrates and DTSC concurs that not all contaminated subsoils can be practicably removed or decontaminated, Exide will submit an application to modify the Closure Plan to include creation of a new solid waste management unit as part of closure in accordance with 22 CCR 66270.42(c). A site-wide Health and Ecological Risk Assessment will be conducted to estimate the cumulative cancer risk, non-cancer hazard and adverse effects of lead remaining at the site, to potential future receptors, prior to and after the appropriate engineering and institutional controls have been implemented at the site. Cumulative cancer risks to potential future receptors at the site shall not exceed a level determined to be acceptable by DTSC management, which is within the risk management range (10-6 to 10-4), and a non-cancer hazard of 1. The 95% UCL of the mean of lead levels in dust/soils available for exposure at the site should not exceed 80 ppm for a potential residential (onsite or off-site receptor) and 320 ppm for a commercial/industrial worker. Contaminants left in place should be monitored using the appropriate operation and management (O&M) controls to ensure that human health or the environment are not adversely affected.

3.3 NOT USED

3.4 PERMITTING AND REGULATORY REQUIREMENTS

This section discusses state, county and local permits necessary to conduct the closure activities. Depending on the nature of the permit, the permit may apply to Phase 1 or Phase 2, or both phases.

3.4.1 DTSC

Although the facility will no longer be an Interim Status RCRA hazardous waste treatment, storage and disposal (TSD) facility, operation of facility environmental systems and the closure activities themselves continue to generate hazardous waste. Therefore, the facility will be subject to regulation as a large quantity hazardous waste generator under Title 22 CCR 66262.10. Exide remains subject to applicable requirements under the Hazardous Waste Control Law and requirements for interim status, including, but not limited to closure and post-closure requirements in accordance with Title 22 CCR 66265.1. Exide is required to comply with all of the minimum standards in CCR, title 22, division 4.5, chapter 15, that establish the minimum standards that define the acceptable management of hazardous waste until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled. The facility already possesses and will continue to use its federal identification number. Exide will prepare an inventory of the former IS units and ancillary equipment that will remain in operation during and after Phase 1. All former IS units will be subject to inspection and maintenance requirements until the time of unit closure, and those units remaining in operation during/after closure shall be subject to the requirements contained in 22 CCR 66262.10 and chapter 15. Exide shall also modify existing waste analysis and emergency procedures/contingency plans to reflect changes in operations as needed.

3.4.2 SCAQMD

3.4.2.1 **General**

The following SCAQMD Rules presently apply to the closure activities (certain rules may no longer apply as closure progresses depending on the rule and the nature of the activities conducted):

- Rule 1150 Excavation
- Rule 1403 Asbestos Emissions from Demolition/Renovation Activities
- Rule 1166 VOC Emissions from Decontamination of Soil
- Rule 1420 Emissions Standard for Lead
- Rule 1420.1 Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities
- Rule 403 Fugitive Dust
- Rule 402 Nuisance
- Rule 401 Visible Emissions
- Rule 1150.2 Control of Gaseous Emissions from Inactive Landfills

The information provided in this section is intended to be a summary of the activities to be conducted and is not intended to represent the complete requirements of the SCAQMD rules.

Exide and its consultants and contractors shall fully comply with all applicable air quality Rules and Regulations, Compliance Plans, Permit Conditions, Orders for Abatement and any other applicable federal, state and local air quality related requirements, including, but not limited to, Rule 1420.1 and any subsequent revisions.

If during closure the ambient air concentrations of lead or arsenic exceed the limits in paragraphs (d)(1) or (d)(5) of AQMD Rule 1420.1, Exide shall submit a written report assessing the root cause of the exceedance and, if closure-related activities are determined to have contributed to the exceedance, Exide shall temporarily suspend the closure-related activities that contributed to the exceedance and provide a mitigation plan designed to avoid additional exceedances. The closure-related activities that contributed to the exceedance shall not re-commence until the Executive Officer, in consultation with DTSC, approves the mitigation plan and the mitigation measures are implemented.

3.4.2.2 **Notification (Rule 1420.1)**

The closure activities are considered maintenance activities in accordance with Rule 1420.1. Notification will be provided to AQMD 10 days prior to start of closure activities in accordance with Rule 1420.1. Notification in accordance with Rule 1420.1 will be made to the public 10 days prior to building gutting and deconstruction or removal of pavement, if conducted outside of a total enclosure. A sign will be installed at facility with the phone number for a facility contact or pre-recorded notification center in accordance with Rule 1420.1.

3.4.2.3 **Asbestos Abatement (Rule 1403)**

An asbestos survey will be prepared prior to building decontamination and deconstruction. The survey will include:

- Inspection, identification, and quantification of all friable, and Class I and Class II non-friable asbestos-containing material;
- Physical sampling of materials;
- Identification of all affected materials at the facility, including but not limited to all layers of flooring materials to the joist level, and all material in wall or ceiling cavities;

- Name, address, phone number of person conducting the survey;
- Written statement of qualifications of personnel, including demonstrating certification by Cal/OSHA pursuant to regulations required by subdivision (b) of Section 9021.5 of the Labor Code, and passing an EPA-approved Building Inspector Course;
- Date survey was conducted;
- List of all suspected materials containing asbestos, list of samples collected, and sketch of sample locations;
- Laboratory name, address, and phone number; and,
- Statement of qualification for the laboratory showing compliance with 40 CFR Part 763.86, SCAQMD Method 300-91; Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy; accreditation by the National Voluntary Laboratory Accreditation Program.

Notification in accordance with Rule 1403(d)(B)(ii) will be provided to AQMD and the City of Vernon 10 days prior to building decontamination, gutting and deconstruction per 1403 (d)(B)(ii). A copy of the notice will be kept on-site.

3.4.2.4 **Temporary Equipment**

A permit to operate will be obtained from AQMD prior to mobilization and use of temporary equipment such as a temporary filter press, wastewater treatment plant, soil stabilization equipment, and temporary generators (if used). A concrete crusher will not be used during Phase 1 or Phase 2. Separate permits will be obtained for each piece of equipment.

3.4.2.5 **Excavation (Rule 1150)**

Phase 1 (Closure) activities are proposed to be limited to work occurring above the existing floors and pavement (i.e. cleaning, gutting, sampling, equipment removal and deconstruction).

No excavation is expected during Phase 1, except limited excavation required for exposing and disconnecting/removing existing utilities. Any such excavation completed during Phase 1 will be completed inside existing structures or temporary enclosures operated under negative pressure. The enclosure shall remain in-place and operational until the excavation is backfilled to the pavement subgrade and covered with a geotextile filter fabric. Pavement will be placed within 3 working days after removal of the temporary enclosure. If more significant excavations are necessary under Phase 1, then an Excavation Management Plan shall be prepared and submitted for AQMD review and approval as described below.

Phase 2 (Contingent Closure) activities are assumed to include large scale soil excavation to depths up to 5 feet below the ground surface dependent on sampling results generated during Phase 1. Prior to the start of Phase 2, an Excavation Management Plan will be prepared in accordance with Rule 1150 and submitted to AQMD. The Excavation Management Plan will include:

- Quantity and characteristics of material to be excavated and transported;
- Mitigation measures necessary during excavation to ensure a public nuisance condition does not occur;
- The requirement to immediately cease excavation when notified a public nuisance has occurred; and,
- Ambient air monitoring procedures.

AQMD has 30 days to respond to the plan, or state that additional time is needed. Fees for filing, engineering and operating will be submitted to AQMD.

3.4.2.6 **VOC Emissions During Excavation (Rule 1166)**

Prior to the start of Phase 2, a Mitigation Plan for VOC emissions during excavation of VOC contaminated soil will be prepared in accordance with Rule 1166 and submitted to AQMD.

VOC-contaminated soil registers a concentration of 50 ppm or greater of VOCs above background as measured before suppression materials have been applied and at a distance of no more than three inches from the surface of the excavated soil with an organic vapor analyzed calibrated with hexane. Depending on the scope of excavation in Phase 2, the Contractor's Various Location Plan will be used, or a site-specific plan will be developed. A Various Location Plan applies to excavation of 2,000 cy or less of VOC contaminated soil in any consecutive 12-month period at the same site. A Site Specific Plan applies to excavation of greater than 2,000 cy of VOC contaminated soil and is issued for period of not more than 2 years. If used, the Site Specific Plan will include:

- Reason for excavation or grading;
- Cause of VOC soil contamination and history of site;
- Description of tanks or piping associated with soil contamination;
- Estimate of amount of contaminated soil;
- Operating schedule for excavation and removal;
- Description of how excavation and grading will be conducted;
- Description of mitigation measures for dust, odors and VOC;
- Details of disposal of VOC contaminated soil, including destination facility;
- Description of monitoring equipment and techniques;
- Map showing facility layout, property line, and surrounding area up to 2,500 feet away, and including any schools, residential areas or other sensitive receptors such as hospitals or locations where children or elderly people live or work; and,
- Designation of a person who can conduct a site inspection with AQMD prior to issuance of the plan.

Notification, including start date, will be provided to AQMD 24 hours in advance. A copy of the mitigation plan will be maintained on-site. The VOC Soil Mitigation Plan will include:

- Segregation of VOC-contaminated stockpiles from non-VOC stockpiles;

- Spraying piles with water and/or approved vapor suppressant, and covering with plastic sheeting for periods of inactivity lasting more than one hour;
- Daily visual inspection of all covered piles, and maintain records;
- Treatment or removal of soil within 30 days from the time of excavation; and,
- Maintaining records of identification and business address of generator, transporter and disposal facility.

Equipment associated with decontamination and remediation of VOC-contaminated soil may also require permits from AQMD.

3.4.3 Water Resources Control Board

Although the facility has an Industrial Stormwater NPDES Permit, under its current configuration the facility collects and treats all stormwater runoff and then discharges the treated effluent under an Industrial discharge permit to the Los Angeles County sanitary sewer system. No runoff directly discharges from the facility, except from the office and employee parking areas east of South Indiana Street. Exide intends to maintain and operate the stormwater collection and treatment system (including the surface impoundment), through Phase 1 and as long as possible during Phase 2. As Phase 1 will be above-grade activities only with no earth disturbance (besides small limited excavations for terminating/disconnecting utilities), and all stormwater runoff will continue to be collected and treated as part of the Industrial Stormwater NPDES Permit, a General Construction Stormwater NPDES Permit does not apply to Phase 1.

The Phase 2 Contingent Closure scenario developed for cost estimating purposes anticipates the excavation and off-site disposal of up to 5 feet of soil dependent on sampling results generated during Phase 1 and capping. The actual Phase 2 remedy will not be determined until after completion of Phase 1 subsurface sampling activities and may integrate with site-wide Corrective Action (CA remedy not yet developed or known). As part of Phase 2, the stormwater collection system and site surface grading will be modified to collect and discharge stormwater

runoff directly to the open concrete channel and/or storm sewer system in South Indiana Street and Bandini Boulevard. The Phase 2 activities are expected to require a General Construction Stormwater NPDES Permit. The Water Resources Control Board may also require that Exide modify and maintain the Industrial Stormwater NPDES Permit following completion of Phase 2 activities, until sufficient information can be generated to demonstrate that stormwater runoff from the restored site can consistently meet standards for direct discharge.

3.4.5 Los Angeles County

The existing Los Angeles County Sanitation District (LACSD) industrial discharge permit will be maintained through Phase 1 and Phase 2 of closure for discharge of treated wastewater and stormwater. The permit will be revised when required by LACSD to reflect changes in the WWTP.

As described above, prior to Phase 2 Exide will submit to the Water Resources Control Board a modification to the existing Industrial Stormwater NPDES Permit for direct discharge of facility stormwater from the site into the storm sewer system or adjacent stormwater drainage channel. Exide will continue to collect, treat and discharge stormwater through the LA County industrial discharge permit until Phase 2 activities are complete and the untreated stormwater meets discharge requirements.

3.4.6 City

3.4.6.1 **Clarifier and Sump Removal**

A City of Vernon permit will be obtained to close Unit 5, Battery Dump Bin Sump; Unit 6, RMPS Floor Sump; Unit 46, Pump Sump; Unit 51, Truck Wash Sump; Unit 62, WWTP Sump; Unit 56, WWTP Clarifier; and ancillary sumps. The requirements of the application are included in this Closure Plan.

3.4.6.2 **Asbestos Abatement**

A permit will be obtained from the City of Vernon Health & Environmental Control Department for asbestos abatement.

3.4.6.3 **Utility Termination**

If applicable, a permit will be obtained to cap the sewer at the property line. Permits will be obtained to abandon fire sprinkler service and terminate electrical services to the work area.

3.4.6.4 **Building Deconstruction**

A Building Demolition permit will be obtained from the City of Vernon Public Works, Water & Development Department and Health & Environmental Control Department. The Building Demolition permit application requires a SWPPP, which is provided in Appendix Q, and a Soil Management Plan. Earth disturbance is not anticipated during Phase 1 building deconstruction as work will occur above grade only (besides small limited excavations for terminating/disconnecting utilities); therefore, a Soil Management Plan may not apply. The application will include the estimated total disposal and diversion amounts in tons (including materials to be recycled on-site and any universal waste) for all construction and demolition wastes generated. A rodent control survey will be conducted to certify the project area is free of vectors, or a rodent control plan will be implemented prior to, during and after completion of work. A site inspection will be conducted at least 5 days prior to deconstruction.

3.4.6.5 **Soil Borings**

A City of Vernon Health & Environmental Control Department permit will be obtained for any established/proposed monitoring well, any soil boring exceeding 50 feet below grade, and any groundwater monitoring well.

3.4.6.6 **Erosion and Sediment Control**

For Phase 2 activities involving soil disturbance, a Statement of Intent to Comply with Minimum Requirements of the Stormwater Permit will be submitted, along with proof of coverage under the General Construction Stormwater NPDES Permit from the State Water Resources Control Board and a site-specific Stormwater Pollution Prevention Plan or Erosion & Sediment Control Plan. The SWPPP and ESCP will be certified by a Qualified SWPPP Developer. Soil disturbance is not expected during Phase 1 (besides small limited excavations for terminating/disconnecting utilities), but is expected during Phase 2.

The City of Vernon Erosion & Sediment Control Plan, if needed, will include:

- Elements of a Stormwater Pollution Prevention Plan;
- Methods to minimize the footprint of the disturbed area and to prevent soil compaction outside of the disturbed area;
- Methods used to protect native vegetation and trees;
- Sediment/Erosion Controls;
- Controls to prevent tracking on and off the site;
- Non-stormwater controls (e.g., vehicle washing, dewatering, etc.);
- Materials management (delivery and storage);
- Spill prevention and control.
- Waste management (e.g., concrete washout/waste management; sanitary waste management);
- Identification of site Risk Level as identified per the requirements in Appendix 1 of the General Construction Activities Stormwater NPDES Permit.
- Rationale for selection and design of the proposed BMPs, including quantifying the expected soil loss from different BMPs;
- Certification by Qualified SWPPP Developer;

- BMPs designed, constructed and operated in a manner to prevent the breeding and harborage of vectors, nuisance pests, or any other vermin;
- Structural BMPs designed by a licensed California Engineer;
- Certification statement signed by landowner; and,
- Documentation of existing coverage under applicable permits, including but not limited to the State Water Board's General Construction Activities Stormwater NPDES Permit, and State Water Board 401 Water Quality Certification.

3.4.6.7 **Monitoring Wells**

City of Vernon Health & Environmental Control Department permits will be obtained prior to installation of proposed monitoring wells.

3.4.7 CALOSHA

Applicable CalOSHA permits and registrations associated with the work will be obtained and notifications will be conducted. These may include a permit with project specific plan for deconstruction of buildings greater than 30 feet high, an annual permit for excavation greater than 5 feet in depth, and an annual permit for scaffolding greater than 35 feet in height. The Notifications and registrations may include a Lead Work Pre-job Notification and Asbestos Contractor Registration.

3.5 ENGINEERING CONTROLS

Engineering controls for water and air management, including dust mitigation procedures, are discussed in Appendix G.

3.6 CONTINGENCY PLAN

The Crisis Management Plan/Contingency Plan for the facility will remain in effect during the Closure and is provided in Appendix S.

In the event of a power outage during closure, work activities occurring within/requiring maintenance of negative pressure will cease until power to the air control systems for the area where the work is occurring is restored. An existing backup power system is present at the perimeter ambient air monitors to maintain their operation during a facility power outage.

If a planned power outage will occur, portable generators will be used to maintain negative pressure on the work areas.

3.7 AIR MONITORING

Air monitoring during closure activities is provided in Appendix H.

3.8 STORMWATER MANAGEMENT

3.8.1 General Operations

The existing stormwater management system maintains stormwater within the facility boundaries and transfers the stormwater for on-site treatment prior to discharge to the LA County Sanitation District. The stormwater management system includes manholes, piping, perimeter sumps and trench drains, pumps, the Surface Impoundment, and perimeter curbing. As the stormwater system is ancillary to Unit 46, Pump Sump, the manholes and piping were replaced in 2013/2014 and have secondary containment and leak detection.

The stormwater management system will be operated during Phase 1 and 2 closure in accordance with the Replacement Stormwater Management System Installation Certification Report (provided in Appendix B), including daily leak detection monitoring by manual or electronic methods and transfer of liquid in the leak detection zone to the on-site WWTP within 24 hours of detection, until the point at which these features need to be closed themselves using the procedures described in the Closure Plan. Following completion of the Phase 2 activities, and provided the closure performance standards in Section 3.2.4 are met, portions of the stormwater system will remain active as a traditional stormwater management system to manage non-hazardous stormwater at the facility as discussed in Section 2.8.3.3. Leak detection system monitoring will be discontinued after completion of required pipe and inlet cleaning.

Exide will submit a modification to the Industrial Stormwater NPDES Permit to allow discontinuation of stormwater collection at the perimeter sumps west of the West Yard truck scale and north of the Blue Lead Warehouse after completion of Phase 1 activities (including final pavement cleaning). While the Blue Lead Warehouse sump is still in operation, Exide will continue to utilize the current piping system to convey stormwater from the perimeter sump north of the Blue Lead Warehouse to Inlet H. This will include running the temporary hose across the west approach to the northern vehicle bridge when storm events are forecasted.

3.8.2 Surface Impoundment Operations

Until the time that the Surface Impoundment is decontaminated during Phase 2 and will no longer manage hazardous waste, Exide will continue to operate the Surface Impoundment in compliance with the associated Stipulation and Order between DTSC and Exide, Docket HWCA 2009-2208. Operational requirements from the Stipulation and Order generally include:

- Measuring the water level daily when the impoundment contains measurable quantities of water above the upper level of the sumps (3 inches or greater from the bottom of the impoundment);

- Recording all rain events, including start and end;
- Recording pumping, including start and end;
- Repair or replace pumps within 48 hours of failure;
- Withdraw a minimum volume of 80,000 gpd of water until levels are 3 inches or less;
- Within one hour of reaching 3 inches from bottom of impoundment, initiate removal of lead-containing material, including sludge, from entire surface area of impoundment. Complete removal within 6 calendar days and as soon as possible; and,
- Provide notices to DTSC.

3.8.3 CL-14 Trench Drain

A trench drain conveys stormwater to Inlet CL-14 from the south. The trench drain is double contained with a leak detection layer and is encased in concrete. Despite several repair attempts during and since installation, a limited amount of water reaches the trench drain leak detection layer and flows to the leak detection zone at CL-14. The precise pathway that the water is taking to enter the trench drain leak detection layer is uncertain and cannot be pinpointed without significant destructive testing. Testing of samples collected from the CL-14 leak detection zone has demonstrated that while the water is non-hazardous, it contains lead, antimony and arsenic at concentrations that well exceed their respective drinking water Maximum Contaminant Levels (MCLs).

In an effort to demonstrate to DTSC's satisfaction that releases have not occurred to the subsurface, Exide will collect soil samples (and liquid samples if detected during the drilling) at multiple locations in the immediate vicinity of CL-14, including along both sides of the trench drain. In addition, Exide will attempt to complete an angled boring directly beneath the inlet. Additional groundwater monitoring wells may be needed to determine if groundwater has been

impacted by this release. Details regarding this investigation will be provided to DTSC in a workplan within 30 days of DTSC approval of the Closure Plan.

In the meantime, Exide will continue to monitor liquid levels in CL-14 and collect and remove accumulating liquid in accordance with the Temporary Leak Detection System Operating Procedure dated January 24, 2014 provided in Appendix B (when manual leak detection methods are used) or in accordance with the Replacement Stormwater Management System Installation Certification Report provided in Appendix B (when electronic leak detection methods are used). Exide will analyze the liquid at CL-14 prior to the start of each removal when the Temporary Leak Detection Operating Procedure is used. Additional information is provided in Appendix U. Exide may conduct these activities prior to implementation of the Closure Plan.

3.9 WASTEWATER TREATMENT

3.9.1 Existing WWTP

The existing Wastewater Treatment Plant (WWTP) is currently operating, and will continue to operate to the extent possible during Phase 1. It is anticipated that maintenance and repair activities will be necessary prior to and during closure activities. The permit for discharge of treated effluent to the LA County Sanitation District will be maintained.

It is anticipated that the temporary filter press discussed in Section 3.9.2 will be installed early in Phase 1 to allow for removal of Unit 79, Surge Tank and Unit 44, WWTP Filter Press.

Alternatively, installation of Unit 79, Surge Tank in the RMPS Building may be completed and a Tank Assessment Report would be submitted to DTSC. Modifications may be made to infrastructure near Unit 44, WWTP Filter Press, in the RMPS Building to allow for a temporary water-tight container (i.e., a roll-off or similar) to be placed beneath the WWTP Filter Press to collect filter cake, or modifications may be made to the Unit 44 screw conveyors to discharge to a temporary water-tight container located east of Unit 44 in the Baghouse Building. Units 79

and 44 would be operated as long as possible during Phase 1 to dewater sludges from the existing WWTP. Filter cake from Unit 44 will be disposed off-site or sent to a secondary lead smelter for recycling. Filtrate will be returned to the WWTP. When the temporary container is full, the container will be removed, covered, and the exterior decontaminated in accordance with the container shipping procedures in Section 3.13. An empty container will be put in its place. Unit 44 has not operated for a significant amount of time, and minor repairs and maintenance will likely be required during the start-up/shake down process.

3.9.2 Temporary Filter Press and Water Storage

A temporary filter press will be mobilized early in Phase 1 to replace Unit 79 and Unit 44. A temporary decontamination water storage feature will be mobilized early in Phase 1 to replace Units 7, 8, and 9. The temporary filter press and temporary decontamination water storage feature will be sized based on expected wastewater volume and quality. Additional details regarding the temporary filter press and temporary decontamination water storage feature will be provided to DTSC, AQMD and the City of Vernon following equipment selection. It is anticipated that the temporary filter press and temporary decontamination water storage feature will be located at Unit 1, and will be operated in conjunction with the existing WWTP and the temporary WWTP.

3.9.3 Temporary WWTP

A temporary WWTP will be mobilized to manage decontamination water generated during the later portions of Phase 1 and during Phase 2. The temporary WWTP will be mobilized and placed into service prior to taking the existing WWTP out of service for closure. The temporary WWTP will be designed based on wastewater volume and quality observed during the early portions of Phase 1 and is expected to include:

- Frac Tank(s);

- Primary Bag Filters (100 gpm);
- Secondary Bag Filters (100 gpm);
- Sand Filter;
- Pump; and,
- Hoses and piping.

The size and configuration of the temporary system is expected to be smaller and simpler than the existing WWTP. Additional detail regarding the temporary WWTP will be provided to DTSC, AQMD and the City of Vernon following equipment selection.

It is anticipated that the temporary WWTP will be located at Unit 1, Central Container Storage Area. Temporary above-grade piping and hoses will be used to transfer liquid to and from the temporary WWTP. Treated liquid will continue to discharge at the existing discharge point to the LA County Sanitation District.

3.10 1420.1 ACTIVITIES

Exide will continue to implement housekeeping activities required by SCAQMD Rule 1420.1 to the extent possible during Phase 1 of closure, including:

- Apply water to outdoor on-site paved areas twice per shift and as necessary;
- Sweep on-site paved areas (excluding east of the Smelter Building) and inside the North Yard buildings under negative pressure with a PM10-compliant sweeper three times every calendar day, at least once per operating shift. Sweeping is not required on rainy days;
- Sweep sidewalks adjacent to the facility with a PM10-compliant sweeper twice per day. Sweeping is not required on rainy days;
- Wash roofs less than 45 feet in height twice per month; and,
- Wash roofs greater than 45 feet in height once per quarter.

1420.1 activities will be conducted by Exide or their designated contractor. 1420.1 activities will cease as closure activities progress. Roof washing will cease once building decontamination is completed during Phase 1. Water application and sweeping of paved areas and sidewalks will cease after completion of decontamination of site-wide unregulated areas during Phase 1.

3.11 EROSION AND SEDIMENT CONTROLS

Earth disturbance is not expected during Phase 1 as activities will be above grade (besides small limited excavations for terminating/disconnecting utilities). The existing perimeter curb and site grading which maintains stormwater runoff on-site will be maintained.

An Erosion and Sediment Control Plan will be prepared for Phase 2 activities once the scope of Phase 2 is known. Erosion and sediment controls will be conducted in accordance with the Stormwater BMP Construction Handbook sheets developed by the California Stormwater Quality Association. As discussed in Section 3.8.3, stormwater system inlets will be retrofitted with erosion and sediment control measures during Phase 2.

3.12 MAINTENANCE

Regular maintenance and housekeeping activities will be performed prior to and during implementation of the Closure Plan.

3.13 SHIPPING PROCEDURES

Prior to exiting its loading area, each truck, trailer and shipping container will be adequately tarped and placarded. The loaded materials shall not extend above the sides or rear of the truck, trailer or shipping container. The truck and trailer exterior and tires will be pressure washed to remove visible material prior to leaving the facility.

All vehicles exiting the facility will be decontaminated in the West Yard Truck Wash prior to exit. Appropriate shipping manifests or bills of lading will be completed. Additional information is provided in Section 5.2.1.

Additional detail regarding shipment procedures, including pre-loading and decon checklists, is provided in Appendix G. Decon checklists will confirm that trucks are dry before exiting the facility.

3.14 TRANSPORTATION

Transportation will be conducted in accordance with DOT requirements. Empty roll-offs and trailers will be staged at the facility prior to loading. Roll-offs and trailers which have been loaded using the procedures discussed in Section 3.13 will be staged on-site while awaiting transport.

A summary of locations receiving materials during closure is provided in Table 3.4. Transportation routes are provided in Appendix Z. All routes will proceed from the facility directly toward Bandini Boulevard, turn left onto Bandini Boulevard and merge onto I-710. Directions to 2801 N Madera Road will be revised to proceed to I-710 using this route. Please note that transportation routes may change due to planned and unplanned road closures. The Contractor will ensure that drivers understand the approved truck routes and will provide a written statement confirming that the transportation routes have been provided and reviewed by the truck driver(s), and the route will be followed, except to the extent that road closures require an alternate route. Any change from the Bandini to I-710 portion of routes will require DTSC approval. Trucks using alternate routes will be documented on a transportation log that includes the date, time, truck identification, manifest number, route taken and contents of load. The Transportation Log will be submitted to DTSC daily when there are entries.

Alternate facilities and routes may be proposed by the Contractor for approval by Exide and DTSC.

All trucks leaving the facility will be marked with a yellow flag having a visible area of at least 1 square foot, attached to the high rear end of the trailer in a location visible to pedestrians.

4.0 PHASE 1 CLOSURE SEQUENCE

4.1 NOTIFICATION

On April 7, 2015, Exide withdrew the Part B Permit Application for the facility and provided DTSC and the City of Vernon with written notification of its intent to close the Vernon facility.

Implementation of the Closure Plan shall commence within 30 days of DTSC final approval of the Closure Plan. DTSC, AQMD and the City of Vernon will be notified at least 10 business days prior to commencement of field work.

4.2 PREPARATION ACTIVITIES

4.2.1 Support Zone

The Contractor will establish an on-site support zone for field offices, temporary facilities, equipment and material staging. The support zone is anticipated to be in the West Yard near the Mobile Equipment Maintenance Building.

Health and safety procedures and personal protective equipment are discussed in Section 18.0.

4.2.2 Implementation Plan

The Contractor shall prepare an Implementation Plan for Phase 1 activities that is consistent with requirements of this Closure Plan and provides detailed information regarding execution of each work element. The Contractor shall be responsible for developing means and methods, although ultimately the approved Closure Plan will be the standard applied to determine adequacy and compliance. The Implementation Plan shall be submitted for review and comment by Exide and the Resident Engineer. Deviations from the approved Closure Plan must be approved by DTSC prior to execution. Following incorporation of Exide and Resident Engineer comments, the

Implementation Plan will be submitted to DTSC at least 30 calendar days prior to the start of work. Work shall not begin until DTSC approval of the Implementation Plan is received in writing. To expedite preparation, review and approval of the Implementation Plan, the Contractor may submit separate plans for decontamination and deconstruction.

The Implementation Plan shall include the following:

- Scope of work;
- Sequence;
- Schedule;
- Supplemental Dust Mitigation Measures;
- Work hours;
- Procedures, sequence and techniques for:
  - Asbestos abatement
  - Air monitoring and dust control;
  - Removal of hazardous materials;
  - Draining and cleaning of piping;
  - Decontamination of units, equipment, areas and buildings;
  - Removal of units and equipment;
  - Utility termination;
  - Water management;
  - Waste management, disposal and transportation, including characterization sampling procedures and frequency;
  - Building deconstruction;
  - Installing temporary fencing at low areas; and,
  - Staging and storage areas.
- Site-specific Health and Safety Plan; and,
- Demolition Engineering Survey.

4.2.3 Utilities

The Contractor will retain a utility locator and conduct an inspection of the facility prior to the start of closure to identify active and inactive utilities and safety concerns. The Contractor will include the procedures and sequence of utility termination in the Implementation Plan for review by Exide and the Resident Engineer prior to submission to DTSC, AQMD and the City of Vernon. The Implementation Plan will include the sequence of utility termination with respect to building decontamination, gutting and deconstruction activities and maintaining utilities during activities which need them.

The plan will include contacting the City of Vernon Utilities Customer Service Department to remove electrical, gas, or water meters upon termination of services and capping sewer laterals, if any, prior to building deconstruction.

The Contractor shall clear each decontamination and deconstruction area for utilities in accordance with the procedures developed in the Implementation Plan. In certain cases, and depending on the needs and requirements of the specific utility company, some of the utilities that are removed will need to be capped in the manner specified by the utility company. Any such work shall be identified in advance and considered in the Contractors bid price.

If excavations or sub-surface activities are conducted, the Contractor shall notify Regional Notification Centers a minimum of 2 working days prior to the initiation of sub-surface activities per 8 CCR 1541(b)(2). The contact information is "811".

If encountered during deconstruction, transformers that are no longer required shall be de-energized and removed. Removal will require testing transformers for PCBs and taking those steps required by federal, state and local regulations for proper handling and disposal. If any transformers are found to contain PCB fluids, concrete and soil samples beneath the transformer will be analyzed for PCBs. Please note that PCB analysis is not used to evaluate whether or not

a material is hazardous and whether or not the closure performance standards in Section 3.2 have been met.

The Contractor shall also provide alternate/backup electrical services for its own use as well as alternate power necessary to operate the WWTP during the period when the primary electrical service is disrupted by relocation/deconstruction activity.

4.2.4 Environmental Survey

A survey of all facility buildings, RCRA regulated and non-regulated, will be performed by an environmental consultant retained by Exide prior to closure to determine the presence of the following environmental concerns:

- Asbestos containing material (ACM) including friable, and Class I and Class II non-friable;
- Lead-based paint;
- Lighting lamps;
- Non-PCB ballasts and transformers;
- Batteries; and,
- PCB-containing ballasts and transformers.

These devices may include fluorescent type, mercury vapor lamps, metal halide lamps, sodium vapor lamps, and batteries from exit signs and emergency lights and smoke detectors.

The survey will be available to the Contractor for use in Phase 1 building decontamination, gutting and deconstruction.

4.3 PHASE 1 SEQUENCE

4.3.1 General

Former IS units at the facility were grouped by their secondary containment/area of drainage to develop areas to be addressed during Phase 1 closure. Existing piping and systems will be used to process stored liquids and residuals to the extent possible, otherwise temporary piping and pumps will be used. The general sequence of closure is provided in the sections below and corresponds to the sequence of work presented in the Phase 1 schedule in Appendix F. The sequence of closure was selected to prioritize critical path items such as engineering controls set-up for building deconstruction, deconstruction of the Baghouse Building, and building deconstruction engineering controls removal while maintaining operation of the West Yard Truck Wash (Unit 87), emission control equipment, stormwater system (including drop-out system and surface impoundment) and the WWTP as long as possible.

The West Yard Truck Wash is required to decontaminate vehicles prior to leaving the Bandini Boulevard entrance per SCAQMD. Operation of emission control equipment is required until completion of decontamination and initial steps of building deconstruction at the Containment Buildings (Reverb Feed Room and Blast Feed Room), Desulfurization Building, RMPS Building, Smelter Building and Finished Lead Building (decontamination only). It is anticipated that the Torits and MAC Baghouses will be the emission control equipment used during a majority of the work. Maintaining the WWTP will allow for treatment of decontamination water with existing equipment to the extent possible. The Corridor portion (north-south and west-east sections) of Unit 33 will be used as a decontamination area for vehicles, equipment and materials.

The Contractor may propose an alternate sequence for review and approval by Exide and DTSC.

Units within a closure area will be closed from upstream to downstream in process and physical location. The order in which the units are presented is the general order in which they will be closed. The closure contractor may opt to close units concurrently or modify the order in which units are closed provided the sequencing requirements are met.

General procedures for closure of each unit are discussed in Sections 5.0 through 11.0. Closure activities specific to each closure area are summarized in Table 3.2.

Please note that the location of a unit does not always correspond to the process within which the unit is used. For example, the WWTP Filter Press (Unit 44) is used in the WWTP process, but is located in RMPS.

Phase 2 activities are discussed in Section 16.0.

4.3.2 Existing Unit Operations

As noted in Section 3.9.1, operations may be resumed at Unit 79, Surge Tank and Unit 44, WWTP Filter Press to support the existing WWTP until closure of the WWTP in the later stages of Phase 1. Units 7 and 8, North and Center Mud Tanks may be used for storage of decontamination liquid prior to treatment in the WWTP. Unit 9, South Mud Tank may also be used for storage of decontamination liquid prior to treatment in the WWTP if additional capacity is needed. Alternatively, a temporary filter press and temporary decontamination water storage feature will be used as discussed in Section 3.9.2.

Unit 87, West Yard Truck Wash, will be used for vehicle decontamination prior to exiting the facility as discussed in Section 3.13.

4.3.3 Container Storage Areas

Prior to the start of and during Phase 1, the Container Storage Areas (CSAs) will be used for storage of drums of waste materials from the RFI investigation or facility housekeeping prior to shipment for off-site disposal. During Phase 1, the CSAs may also be used for storage of containers of deconstruction materials awaiting shipment. Such material shall be dry (i.e. no free liquids) and containers shall be sealed when placed in the CSA.

The Central Container Storage Building (Unit 1) is a former IS regulated container storage area and was used for storage of spent lead acid batteries and drums of plant scrap. The containers represent primary containment and the floor of Unit 1 functions as secondary containment for the containers (batteries and drums of battery plant scrap) awaiting processing. Unit 1 has a concrete floor which slopes to spill collection sumps (Acid Collection Sumps 1 and 2) and piping, metal roof, and partial concrete walls on two sides. Unit 1 will be closed by decontaminating the secondary containment area floor, sumps, walls and roof as discussed in Section 8.0, removing the stainless steel liner as discussed in Section 8.2, and performing wipe, concrete, soil and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 1 is provided in Appendix D. It is anticipated that Unit 1 will be used as the location for temporary equipment during closure such as a temporary filter press and/or temporary WWTP.

The West Container Storage Building #1 (Unit 2) is a former IS regulated container storage area and was used for storage of spent lead acid batteries and drums of plant scrap. Unit 2 is empty. Unit 2 provided secondary containment for the containers stored therein. Unit 2 has a concrete floor which slopes to spill collection sumps (Acid Collection Sumps 5 and 6) and piping, metal roof and partial concrete walls on three sides. Unit 2 will be closed by decontaminating the secondary containment area floor, walls and roof as discussed in Section 8.0, removing the stainless steel sump liner as discussed in Section 8.2, and performing wipe, concrete, soil and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 2 is provided in Appendix D.

The West Container Storage Building #2 (Unit 3) is a former IS regulated container storage area and was used for storage of spent lead acid batteries and drums of plant scrap. Unit 3 is empty. Unit 3 provides secondary containment area for the containers stored therein. Unit 3 has a concrete floor which slopes to a spill collection sump (Acid Collection Sump 4) and piping, metal roof and partial concrete walls on three sides. Unit 3 will be closed by decontaminating the secondary containment area floor, walls and roof as discussed in Section 8.0, removing the stainless steel sump liner as discussed in Section 8.2, and performing wipe, concrete, soil and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 3 is provided in Appendix D.

Ancillary sump Acid Collection Sump 3 is ancillary to former IS Units 1, 2, and 3 and is used for management of acid spills and wash down water. Acid Collection Sumps 1, 2, 4, 5, and 6 at Units 1, 2 and 3 drain to Acid Collection Sump 3. A pump at Acid Collection Sump 3 transfers collected liquid via above ground piping to the Water Softener Building Sump, and then to the on-site Wastewater Treatment Plant. The Acid Collection Sumps 1 through 6 are concrete sumps with stainless steel liners. The Acid Collection Sumps 1 through 6 will be closed by removing any standing liquid as discussed in Section 5.2, decontaminating the sumps concurrent with Unit 1, 2 and 3 floor decontamination as discussed in Section 8.0, removing the stainless steel liner as discussed in Section 8.2, and performing concrete, soil, and soil gas sampling concurrent with Unit 1, 2 and 3 sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Acid Collection Sumps 1 through 6 is provided in Table 1.3.

4.3.4 Oxidation Tank Area

The Oxidation Tank Area is a secondary containment area with concrete floor and walls. The Oxidation Tank Area does not have a roof. Units 24, 25 are located within the secondary containment area at the Oxidation Tank Area.

North Oxidation Tank (Unit 24) is a former IS unit and was used for storage of wastewater and sodium sulfate solution. Unit 24 will be emptied by Exide prior to the start of closure. Unit 24 is a fiberglass, closed top tank located within the Oxidation Tank Area secondary containment. Unit 24 will be closed by decontaminating the interior and exterior of the tank as discussed in Section 6.0, and disposing the tank off-site as discussed in Section 7.8. Additional information regarding Unit 24 is provided in Appendix D.

South Oxidation Tank (Unit 25) is a former IS unit and was used for storage of wastewater and sodium sulfate solution. Unit 25 will be emptied by Exide prior to the start of closure. Unit 25 is a fiberglass, closed top tank located within the Oxidation Tank Area secondary containment. Unit 25 will be closed by decontaminating the interior and exterior of the tank as discussed in Section 6.0, and disposing the tank off-site as discussed in Section 7.8. Additional information regarding Unit 25 is provided in Appendix D.

Ancillary sump Neptune Scrubber Sump is located in the Baghouse Building, is ancillary to former IS units 24 and 25, and is used for management of wastewater. Neptune Scrubber Sump is a concrete sump. Neptune Scrubber Sump will be closed by removing inventory/scrubber slurry as discussed in Section 5.2, decontaminating the sump as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Neptune Scrubber Sump is provided in Table 1.3.

The Oxidation Tank Area will be closed by decontaminating the floor and walls discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Tank pedestals will be deconstructed as discussed in Section 11.2. Additional information regarding the Oxidation Tank Area is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

4.3.5 Mobile Equipment Wash Station

Mobile Equipment Wash Station (Unit 35) is a former IS tank and is used for collection of wash water. Unit 35 is a stainless steel and concrete sump. Unit 35 is currently empty. Unit 35 will be closed by decontaminating the sump as discussed in Section 8.0, removing the stainless steel liner, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 35 is provided in Appendix D.

4.3.6 Blast Furnace Feed Room

The Blast Furnace Feed Room (Unit 34) is a former IS containment building and was used for storage of blast furnace feed. Unit 34 contents will be removed prior to closure. Unit 34 has a reinforced concrete floor (with sacrificial asphalt layer), metal roof, and concrete and metal walls. A coke railcar unloading system, partially below grade is located beneath the southeast corner of the Blast Furnace Feed Room building. Unit 34 will be closed by decontaminating the floor, walls and roof as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 34 is provided in Appendix D.

A structural evaluation will be conducted for the Blast Furnace Feed Room. The Blast Furnace Feed Room building will be deconstructed to grade as discussed in Section 11.0.

4.3.7 Rotary Kiln

Rotary Kiln (Unit 69) is a former IS miscellaneous unit which processed reverb furnace feed material. The rotating drum portion of Unit 69 contains an estimated 4 cy of dry feed material that was in-process when plant operations were suspended. The conveyors into and out of the rotating drum portion of Unit 69 have already been cleaned to remove feed material that was in-process when plant operations were suspended. Unit 69 is constructed of steel and is located in the Rotary Kiln enclosure within the Baghouse Building. Unit 69 will be closed by removing

inventory in the rotating drum as discussed in Section 5.2, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and based on the results of the sampling, either re-using the unit at an alternate facility as discussed in Section 7.8., or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 69 is provided in Appendix D.

The Rotary Kiln enclosure will be closed by decontaminating the floor, walls and roof as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. The Rotary Kiln enclosure will be deconstructed to grade as discussed in Section 11.0. Additional information regarding the Rotary Kiln enclosure is provided in Table 1.2 and the Closure Cost Estimate (Appendix I). All or part of the enclosure will require deconstruction in concert with cleaning and removal of the Rotary Kiln equipment.

The Dryer Baghouse (used to collect and manage air emissions from the Rotary Kiln) and associated equipment will be decontaminated as discussed in Section 6.10 and deconstructed as discussed in Section 7.8.

4.3.8 Baghouse Building Units

The Baghouse Building has a concrete floor, metal roof and metal walls. Former IS units 31 and 32, former units 22, 23, 29, and 30 which underwent preliminary closure, and ancillary sumps Baghouse Building Sump 1, Baghouse Building Sump 2, Baghouse Building Sump 3, Baghouse Building Tire Wash, and Neptune Scrubber Sump are located within the Baghouse Building.

North Flue Dust Slurry Tank (Unit 31) is a former IS tank and is used for storage of lead dust slurry. Unit 31 is a stainless steel, double walled, open top tank. Unit 31 will be closed by removing remaining contents as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and based on the results of the sampling, recycling the tank off-site as discussed in Section 7.8. or shipping the

unit to an appropriate disposal facility. Additional information regarding Unit 31 is provided in Appendix D.

South Flue Dust Slurry Tank (Unit 32) is a former IS tank and is used for storage of lead dust slurry. Unit 32 is a stainless steel, double walled, open top tank. Unit 32 will be closed by removing remaining contents as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conduct confirmation sampling, and, based on the results, recycling the tank off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 32 is provided in Appendix D.

4.3.9 Emission Control Equipment Decontamination and Deconstruction

Operation of the Soft Lead Baghouse, Hard Lead Baghouse, Material Handling Baghouse, the portion of the East and West MAC Baghouses not retained in service, the portion of the Torit Dust Collector not retained in service, and MAPCO Scrubber will cease. This equipment, the Reverb Baghouse, and the Blast Baghouse will be decontaminated as discussed in Section 6.10 and deconstructed as discussed in Section 7.8.

4.3.10 Baghouse Building Decontamination

The Baghouse Building will be closed by decontaminating the floor, walls and roof as discussed in Section 8.0, and performing wipe, concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Surface wipe samples will be performed on all walls and the roof of the building. Concrete, soil and soil gas sampling will be performed in the footprint of active former IS units only. Additional information regarding the Baghouse Building is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

Ancillary sumps Baghouse Building Sump 1, Baghouse Building Sump 2, Baghouse Building Sump 3 and Baghouse Building Tire Wash Sump are ancillary to former IS units and are used for management of wash down water. Baghouse Building Sump 1, Baghouse Building Sump 2, Baghouse Building Sump 3 and Baghouse Building Tire Wash Sump are concrete sumps. Baghouse Building Sump 1, Baghouse Building Sump 2, Baghouse Building Sump 3 and Baghouse Building Tire Wash Sump will be closed by removing sump contents as discussed in Section 5.2, decontaminating the sumps concurrent with Baghouse Building floor decontamination as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Baghouse Building Sump 1, Baghouse Building Sump 2, Baghouse Building Sump 3 and Baghouse Building Tire Wash Sump are provided in Table 1.3.

East Equalization Tank (Unit 22) was previously decontaminated and demolished. Closure of Unit 22 will be completed as part of floor decontamination for the Baghouse Building.

West Equalization Tank (Unit 23) was previously decontaminated and demolished. Closure of Unit 23 will be completed as part of floor decontamination for the Baghouse Building.

Process Tank (Unit 29) was previously decontaminated and demolished. Closure of Unit 29 will be completed as part of floor decontamination for the Baghouse Building.

Filtrate Tank (Unit 30) was previously decontaminated and demolished. Closure of Unit 30 will be completed as part of floor decontamination for the Baghouse Building.

4.3.11 Baghouse Building Deconstruction

A structural evaluation will be conducted for the Reverb Feed Room Building, RMPS Building, Baghouse Building and Smelter Building. The deconstruction sequence will be determined by the structural evaluation. The Baghouse Building will likely be deconstructed first as it is

structurally dependent on the RMPS Building, Reverb Feed Room Building, and Smelter Building.

The lower levels of the Smelter, Blast Furnace Feed Room, Baghouse Building and RMPS Buildings and sumps will not be backfilled during Phase 1. A temporary fence will be installed at the perimeter of lower levels and sumps as needed due to health and safety concerns with fall hazards. The Corridor portion (north-south and west-east sections) of the Reverb Feed Room will remain in use as a decontamination area for equipment and building components that cannot be decontaminated in-place during these activities.

4.3.12 Desulfurization Area Units

The Desulfurization Area is enclosed within the Desulfurization Building. The building is also referred to as the Mud Tank Building. The Desulfurization Building has a concrete secondary containment area, metal roof and concrete and metal walls. Units 7, 8, 9, 10, former 64, former 65, and 67 and ancillary sump Mud Tank Area Sump 1 are located within the secondary containment area at the Desulfurization Building.

The discharge for the MAPCO Scrubber currently discharges to Units 7, 8, 9 or 10 and will be changed to discharge to Unit 6, RMPS Floor Sump in preparation for removing the Desulfurization units.

A temporary decontamination water storage feature will be mobilized to the facility as the Mud Tanks will be closed.

North Mud Tank (Unit 7) is a former IS tank and was used for storage of lead sulfate paste. Paste will be removed by Exide prior to closure. Unit 7 will be used for decontamination water storage prior to closure and may be used during closure. Unit 7 is a stainless steel, closed top tank. Unit 7 will be closed by removing inventory as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation

sampling, and, based on the results, recycling the tank off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 7 is provided in Appendix D.

Center Mud Tank (Unit 8) is a former IS tank and was used for storage of lead sulfate paste. Paste will be removed by Exide prior to closure. Unit 8 will be used for decontamination water storage prior to closure and may be used during closure. Unit 8 is a stainless steel, closed top tank. Unit 8 will be closed by removing inventory as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycling the tank off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 8 is provided in Appendix D.

South Mud Tank (Unit 9) is a former IS tank and was used for storage of lead sulfate paste. The paste will be removed by Exide prior to closure. Unit 9 may be used for decontamination water storage prior to and during closure. Unit 9 is a stainless steel, closed top tank. Unit 9 will be closed by removing inventory as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycling the tank off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 9 is provided in Appendix D.

South Acid Storage Tank (Unit 10) is a former IS tank and was used for storage of sulfuric acid. Unit 10 currently contains discharge from the MAPCO Scrubber, which will be removed by Exide prior to closure. Unit 10 is a polyethylene, closed top tank. Unit 10 will be closed by cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycling the tank off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 10 is provided in Appendix D.

Acid Overflow Tank B (Unit 67) is a former IS tank and was used for storage of sulfuric acid. Unit 67 contains solid residue. The stand for Unit 67 has failed. Unit 67 is a polyethylene, closed top tank. Unit 67 will be closed by removing inventory as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycling the tank off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 67 is provided in Appendix D.

4.3.13 Desulfurization Building

The Desulfurization Building will be closed by decontaminating the floor, walls and roof as discussed in Section 8.0, and performing wipe, concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Surface wipe samples will be performed on all walls and the roof of the building. Additional information regarding the Desulfurization Building is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

North Acid Storage Tank 2 (Unit 64) was previously decontaminated and demolished. Closure of Unit 64 will be completed as part of floor decontamination, and concrete, soil and soil gas sampling for the Desulfurization Building.

North Acid Storage Tank (Unit 65) was previously decontaminated and demolished. Closure of Unit 65 will be completed as part of floor decontamination, and concrete, soil and soil gas sampling for the Desulfurization Building.

Ancillary sump Mud Tank Area Sump 1 was ancillary to former IS units and used for management of wash down water. Mud Tank Area Sump 1 is a concrete sump. Mud Tank Area Sump 1 will be closed by removing standing liquid as discussed in Section 5.2, decontaminating the sump concurrent with Desulfurization Building floor decontamination as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling concurrent with Desulfurization

Building sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Mud Tank Area Sump 1 is provided in Table 1.3.

A structural evaluation will be conducted for the Desulfurization Building. The Desulfurization Building will be deconstructed up to 5 feet below grade dependent on sampling results generated during Phase 1 as discussed in Section 11.0.

4.3.14 RMPS Units

The RMPS area is enclosed within the RMPS Building. The RMPS Building consists of four sections: the unloading dock, the narrow section along the west side of the Reverb Furnace Feed Room, the main RMPS area, and the enclosed plastic trailer loading dock. The section along the west side of the Reverb Furnace Feed Room includes a main level, and a lower level which includes Unit 5, Battery Dump Bin Sump, and Unit 70, Oscillating Pan Feeder. The RMPS Building has two concrete secondary containment areas (the main area and the lower level), concrete floor, metal roof and concrete and metal walls. Former IS units 5, 6, 12, 13, 14, 40, 41, 42, 43, 44, 45, 66, 68, 70, 79, and 80, and former IS units 11, 26, 27, and 28 which underwent preliminary closure are located within the RMPS Building.

Battery Processing Units

Oscillating Pan Feeder (Unit 70) is a former IS miscellaneous unit which processed spent batteries and lead-bearing plant scrap. Materials in Unit 70 will be removed by Exide prior to the start of closure. Unit 70 is constructed of stainless steel and is located above the lower level secondary containment area at the RMPS Building. Unit 70 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 70 is provided in Appendix D.

RMPS Hammer Mill (Unit 40) is a former IS miscellaneous unit which processed spent batteries. Materials in Unit 40 will be removed by Exide prior to the start of closure. Unit 40 is constructed of stainless steel and is located in the main secondary containment area at the RMPS Building. Unit 40 will be closed by cleaning the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 40 is provided in Appendix D.

Paste/Acid Processing Units

Paste Thickening Unit (Santa Maria) (Unit 12) is a former IS regulated tank intended to contain lead sulfate paste. Unit 12 was reconstructed during the facility shutdown in the fall of 2014 and was never used to handle waste materials. Unit 12 is empty. Unit 12 is a stainless steel, open top tank located in the main secondary containment area at the RMPS Building. Unit 12 will be closed by cleaning the interior (single rinse) and exterior (single rinse) of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 12 is provided in Appendix D. Closure Performance Standards are discussed in Section 3.2.1.1 for equipment that is being removed and reused.

Acid Overflow Tank A (Unit 66) is a former IS regulated tank and was used for storage of sulfuric acid. Unit 66 is empty. Unit 66 is a polyethylene, closed top tank and is located in the main secondary containment area at the RMPS Building. Unit 66 will be closed by cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 66 is provided in Appendix D.

Waste Acid Circulation Tank (Unit 41) is a former IS tank and contained sodium sulfate solution and dilute sulfuric acid. The tank contains solid residue which will be removed by Exide prior to closure. Unit 41 is a stainless steel, open top tank located in the main secondary containment area at the RMPS Building. Unit 41 will be closed by decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 41 is provided in Appendix D.

Clarifying Acid Filter Press (Unit 68) is a former IS miscellaneous unit which processed sulfuric acid. Unit 68 is empty. Unit 68 is constructed of cast iron coated with acid resistant paint and is located in the main secondary containment area at the RMPS Building. Unit 68 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 68 is provided in Appendix D.

Plastic Processing Units

East Elutriation Column (Unit 42) is a former IS miscellaneous unit which processed dilute sulfuric acid, plastic, rubber and lead metal. Unit 42 is empty. Unit 42 is constructed of stainless steel and is located in the main secondary containment area at the RMPS Building. Piping discharge to Unit 42 from the WWTP has been disconnected by Exide. Unit 42 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 42 is provided in Appendix D.

West Elutriation Column (Unit 43) is a former IS miscellaneous unit which processed dilute sulfuric acid, plastic, rubber and lead metal. Unit 43 is empty. Unit 43 is constructed of stainless steel and is located in the main secondary containment area at the RMPS Building. Unit 43 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 43 is provided in Appendix D.

Sink/Float Separator (Unit 13) is a former IS tank and contained plastic and dilute sulfuric acid. Unit 13 is empty. Unit 13 is a stainless steel, open top tank located in the main secondary containment area at the RMPS Building. Unit 13 will be closed by decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 13 is provided in Appendix D.

Recycle Tank (Unit 14) is a former IS tank and contained dilute sulfuric acid. Unit 14 is empty. Unit 14 is a stainless steel, open top tank located in the main secondary containment area at the RMPS Building. Unit 14 will be closed by decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 14 is provided in Appendix D.

Plastic Centrifuge #1 (Unit 80) is a former IS miscellaneous unit which separated plastic chips and rinse water. Unit 80 is empty. Unit 80 is constructed of stainless steel and is located in the main secondary containment area at the RMPS Building. Unit 80 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 80 is provided in Appendix D.

RMPS Filter Press

RMPS Filter Press Unit B (Unit 45) is a former IS miscellaneous unit which processed lead carbonate paste. Unit 45 is empty. Unit 45 was partially decontaminated and deconstructed in preparation for replacement of the filter press when the decision to pursue closure occurred. Unit 45 is constructed of cast iron coated with acid resistant paint and is located in the main secondary containment area at the RMPS Building. Unit 45 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 45 is provided in Appendix D.

WWTP Filter Press

A temporary filter press will be mobilized to replace Unit 44. It is anticipated that the temporary filter press will be located at Unit 1.

Surge Tank (Unit 79) is a former IS tank that may be used during closure for storage of wastewater in conjunction with Unit 44 operations. Unit 79 is a polyethylene, closed top tank and located in the main secondary containment area at the RMPS Building. Unit 79 will be closed by removing inventory as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 79 is provided in Appendix D.

WWTP Filter Press (Unit 44) is a former IS miscellaneous unit which processed lead carbonate paste and WWTP sludge and which may be used for WWTP sludge processing during closure. Unit 44 is constructed of cast iron coated with acid resistant paint and is located in the main secondary containment area at the RMPS Building. Unit 44 will be closed by decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results,

recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 44 is provided in Appendix D.

If used, the temporary container associated with Unit 44 will be decontaminated as discussed in Section 6.0, sampled and demobilized from the facility.

4.3.15 RMPS Building/Upper Feed Room Building

The discharge from Unit 87, West Yard Truck Wash, will be rerouted from Unit 5 to the WWTP.

RMPS Floor Sump (Unit 6) is a former IS tank used to collect sodium sulfate solution and wash water. Unit 6 is a double-walled stainless steel sump located in the main secondary containment area at the RMPS Building. Unit 6 will be closed by removing standing liquid as discussed in Section 5.2, removing the stainless steel liner as discussed in Section 8.2, decontaminating the sump concurrent with RMPS Building floor decontamination as discussed in Section 8.0, and conducting wipe, concrete, soil and soil gas sampling as discussed in Section 9.0. Additional information regarding Unit 6 is provided in Appendix D.

Battery Dump Bin Sump (Unit 5) is a former IS tank used to collect acid and wash water. Unit 5 is a double-walled stainless steel sump located in the lower level secondary containment area at the RMPS Building. Unit 5 will be closed by removing inventory as discussed in Section 5.2, removing the stainless steel liner as discussed in Section 8.2, decontaminating the sump concurrent with RMPS Building floor decontamination as discussed in Section 8.0, and conducting wipe, concrete, soil and soil gas sampling as discussed in Section 9.0. Additional information regarding Unit 5 is provided in Appendix D.

The RMPS Building and Upper Feed Room portion of the Reverb Feed Room will be closed by decontaminating the floor, secondary containment areas, walls and roof as discussed in Section 8.0, and performing wipe, concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Surface wipe samples will be performed on all walls and roof of the RMPS

and Reverb Feed Room. Additional information regarding the RMPS Building and Reverb Feed Room are provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

Overflow Tank (Unit 11) was previously decontaminated and demolished. Closure sampling (chip, soil, and soil gas) of Unit 11 will be completed as part of floor decontamination, and concrete, soil and soil gas sampling for the RMPS Building.

pH Adjustment Tank #1 (Unit 26) was previously decontaminated and demolished. Closure sampling (chip, soil, and soil gas) of Unit 26 will be completed as part of floor decontamination, and concrete, soil and soil gas sampling for the RMPS Building.

pH Adjustment Tank #2 (Unit 27) was previously decontaminated and demolished. Closure sampling (chip, soil, and soil gas) of Unit 27 will be completed as part of floor decontamination, and concrete, soil and soil gas sampling for the RMPS Building.

pH Adjustment Tank #2 (Unit 28) was previously decontaminated and demolished. Closure sampling (chip, soil, and soil gas) of Unit 28 will be completed as part of floor decontamination, and concrete, soil and soil gas sampling for the RMPS Building.

The RMPS Building and Upper Feed Room portion of the Reverb Feed Room will be deconstructed to grade as discussed in Section 11.0.

4.3.16 Smelter Building Units and Equipment

Negative pressure for the Smelter Building and Corridor will be provided by re-ducting a portion of the capacity of the existing Torit and/or MAC Baghouses or using temporary emission control equipment.

The Smelter Building has a concrete floor, metal roof and concrete and metal walls. Units 36 and 37 are located on the main level of the Smelter Building. Receiving and refining kettles (Units 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102) are accessed from the main level of the Smelter Building and extend below the main level floor into a lower level referred to as the kettle gallery. Ancillary sumps North Kettle Gallery Sump, South Kettle Gallery Sump and Cooling Tower Return Sump are located within the lower level of the Smelter Building.

Receiving Kettle A (Unit 89) is a former IS miscellaneous unit which processed lead product. Unit 89 is constructed of steel and is located in the Smelter Building. Unit 89 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 89 is provided in Appendix D.

Receiving Kettle B (Unit 90) is a former IS miscellaneous unit which processed lead product. Unit 90 is constructed of steel and is located in the Smelter Building. Unit 90 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 90 is provided in Appendix D.

Receiving Kettle E (Unit 91) is a former IS miscellaneous unit which processed lead product. Unit 91 is constructed of steel and is located in the Smelter Building. Unit 91 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 91 is provided in Appendix D.

Receiving Kettle F (Unit 92) is a former IS miscellaneous unit which processed lead product. Unit 92 is constructed of steel and is located in the Smelter Building. Unit 92 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 92 is provided in Appendix D.

Receiving Kettle G (Unit 93) is a former IS miscellaneous unit which processed lead product. Unit 93 is constructed of steel and is located in the Smelter Building. Unit 93 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 93 is provided in Appendix D.

Refining Kettle 1 (Unit 94) is a former IS miscellaneous unit which processed lead product. Unit 94 is constructed of steel and is located in the Smelter Building. Unit 94 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 94 is provided in Appendix D.

Refining Kettle 2 (Unit 95) is a former IS miscellaneous unit which processed lead product. Unit 95 is constructed of steel and is located in the Smelter Building. Unit 95 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle

housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 95 is provided in Appendix D.

Refining Kettle 3 (Unit 96) is a former IS miscellaneous unit which processed lead product. Unit 96 is constructed of steel and is located in the Smelter Building. Unit 96 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 96 is provided in Appendix D.

Refining Kettle 4 (Unit 97) is a former IS miscellaneous unit which processed lead product. Unit 97 is constructed of steel and is located in the Smelter Building. Unit 97 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 97 is provided in Appendix D.

Refining Kettle 5 (Unit 98) is a former IS miscellaneous unit which processed lead product. Unit 98 is constructed of steel and is located in the Smelter Building. Unit 98 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 98 is provided in Appendix D.

Refining Kettle 6 (Unit 99) is a former IS miscellaneous unit which processed lead product. Unit 99 is located in the Smelter Building. The kettle is no longer present at Unit 99; however, the kettle housing remains. The kettle housing and brick will be decontaminated as discussed in

Section 6.0, confirmation sampling will be conducted, and, based on the results, the unit will be recycled off-site as discussed in Section 7.8 or shipped to an appropriate disposal facility. Additional information regarding Unit 99 is provided in Appendix D.

Refining Kettle 7 (Unit 100) is a former IS miscellaneous unit which processed lead product. Unit 100 is constructed of steel and is located in the Smelter Building. Unit 100 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, sampled, and re-using or recycling the unit off-site as discussed in Section 7.8 or shipped to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 100 is provided in Appendix D.

Refining Kettle 8 (Unit 101) is a former IS miscellaneous unit which processed lead product. Unit 101 is constructed of steel and is located in the Smelter Building. Unit 101 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 101 is provided in Appendix D.

Refining Kettle 9 (Unit 102) is a former IS miscellaneous unit which processed lead product. Unit 102 is constructed of steel and is located in the Smelter Building. Unit 102 will be closed by removing inventory as discussed in Section 5.2.2.5, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. The kettle housing and brick will also be decontaminated, sampled and recycled or disposed off-site. Additional information regarding Unit 102 is provided in Appendix D.

Reverb Furnace (Unit 36) is a former IS miscellaneous unit which processed reverb furnace feed material. Unit 36 is constructed of brick and steel and is located in the Smelter Building. Unit 36 is empty. However, lead and slag can accumulate between the steel frame forming the bottom of reverb-style furnaces. Therefore lead and slag should be anticipated beneath this unit during deconstruction. The brick was replaced in 2014 in anticipation of the facility restarting but the furnace was not used for material processing following brick replacement. The burner and feed screw portions of the furnace were previously removed and are in an on-site warehouse. Unit 36 will be closed by removing brick for re-use at an alternate facility as discussed in Section 7.8, removing lead and slag from beneath the unit, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 36 is provided in Appendix D.

Blast Furnace (Unit 37) is a former IS miscellaneous unit which processed blast furnace feed material. Unit 37 is empty. Unit 37 is constructed of brick and steel and is located in the Smelter Building. Unit 37 will be closed by removing brick as discussed in Section 5.2, decontaminating the unit as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 37 is provided in Appendix D.

4.3.17 Smelter Building

Ancillary sump North Kettle Gallery Sump and South Kettle Gallery Sump are ancillary to former IS units and are used for management of wash down water. North Kettle Gallery Sump and South Kettle Gallery Sump are concrete sumps. North Kettle Gallery Sump and South Kettle Gallery Sump will be closed by removing inventory as discussed in Section 5.2, decontaminating the sumps concurrent with Smelter Building floor decontamination as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0

and 10.0, respectively. Additional information regarding North Kettle Gallery Sump and South Kettle Gallery Sump is provided in Table 1.3.

Ancillary sump Cooling Tower Return Sump is used for management of cooling water. Cooling Tower Return Sump is a concrete sump. Cooling Tower Return Sump will be closed by removing inventory as discussed in Section 5.2, decontaminating the sump concurrent with Smelter Building floor decontamination as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Cooling Tower Return Sump is provided in Table 1.3.

The Smelter Building, including the Lower Level, will be closed by decontaminating the floor, walls and roof as discussed in Section 8.0, and performing wipe, concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Surface wipe samples will be performed for all walls and the ceiling of the building. Concrete, soil and soil gas sampling will be performed in the footprint of former IS units only. Additional information regarding the Smelter Building is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

The Smelter Building will be deconstructed to grade as discussed in Section 11.0.

4.3.18 Containment Building Decontamination

The Reverb Furnace Feed Room (Unit 33) is a former IS containment building and was used for storage of reverb furnace feed. Unit 33 is empty. Unit 33 has a reinforced concrete floor and double-lined containment system with leak detection, metal roof, and concrete and metals walls. Unit 33 will be closed by decontaminating the floor, walls and roof as discussed in Section 8.0, and performing wipe, concrete, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Surface wipe samples will be performed on all walls and ceiling of the building. Soil sampling was performed prior to closure. Additional information regarding Unit 33 is provided in Appendix D.

The Truck Wash Sump (Unit 51) is a former IS tank (concrete sump) used to collect wash water within the Reverb Furnace Feed Room (Unit 33). Unit 51 contents will be removed prior to closure. Unit 51 will be closed by decontaminating the sump concurrent with Unit 33 floor decontamination as discussed in Section 8.0, and performing concrete, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Soil sampling was performed prior to closure. Additional information regarding Unit 51 is provided in Appendix D.

The Corridor portion (north-south and west-east sections) of Unit 33 will remain in use as a decontamination area during closure. Negative pressure for the Corridor will be provided by re-ducting a portion of the capacity of the existing Torit and/or MAC Baghouses or using temporary emission control equipment.

The Lower Feed Room and then the Corridor portions of the Reverb Feed Room will be deconstructed to grade as discussed in Section 11.0.

4.3.19 Finished Lead Building

The Finished Lead Building will be closed as a containment building by decontaminating the floor, walls and roof as discussed in Section 8.0. Wipe sampling will be performed as discussed in Section 9.2. Additional information regarding the Finished Lead Building is provided in Table 1.2 and the Closure Cost Estimate (Appendix I). The building will be deconstructed to remove all structures, foundations and up to 5 feet of soils dependent on sampling results generated during Phase 1.

4.3.20 WWTP Units

The Wastewater Treatment Plant will be one of the final areas to be decontaminated so that stormwater and decontamination water generated during Phase 1 can be processed on-site to the extent possible. A temporary WWTP will be mobilized as discussed in Section 3.9.3. The temporary WWTP is anticipated to be located at Unit 1. The temporary WWTP will treat Phase

1 liquids generated after decontamination of the Wastewater Treatment Plant and stormwater through the Phase 2 Closure and Corrective Action activities, and until Exide is permitted to direct discharge surface water runoff.

The WWTP is a secondary containment area with concrete floor and walls. Units 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 71, 72, 73, 74, 75, 76 and 77 are located within the secondary containment area at the WWTP.

WWTP Acid Storage Tank (Unit 63) is a former IS tank and was used for storage of acid. Unit 63 is empty. Unit 63 is a polyethylene, closed top tank located in the secondary containment area at the WWTP. Unit 63 will be closed by decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 63 is provided in Appendix D.

WWTP Recycled Acid Tank (Unit 76) is a former IS tank and was used for storage of wastewater. Unit 76 is empty. Unit 76 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 76 will be closed by cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 76 is provided in Appendix D.

Equalization Tank 1 (Unit 52) is a former IS tank and is used for storage of wastewater. Unit 52 is a stainless steel, open top tank located in the secondary containment area at the WWTP. Unit 52 will be closed by removing remaining liquid as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 52 is provided in Appendix D.

Equalization Tank 2 (Unit 53) is a former IS tank and is used for storage of wastewater. Unit 53 is a stainless steel, open top tank located in the secondary containment area at the WWTP. Unit 53 will be closed by removing remaining liquid as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 53 is provided in Appendix D.

Reaction Tank 1 (Unit 57) is a former IS tank and is used for storage of wastewater. Unit 57 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 57 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 57 is provided in Appendix D.

Reaction Tank 2 (Unit 58) is a former IS tank and is used for storage of wastewater. Unit 58 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 58 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 58 is provided in Appendix D.

Reaction Tank 3 (Unit 59) is a former IS tank and is used for storage of wastewater. Unit 59 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 59 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 59 is provided in Appendix D.

Reaction Tank 4 (Unit 60) is a former IS tank and is used for storage of wastewater. Unit 60 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 60 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 60 is provided in Appendix D.

Reaction Tank 5 (Unit 61) is a former IS tank and is used for storage of wastewater. Unit 61 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 61 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 61 is provided in Appendix D.

Flocculation Tank (Unit 55) is a former IS tank and is used for storage of wastewater. Unit 55 is a steel, closed top tank located in the secondary containment area at the WWTP. Unit 55 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 55 is provided in Appendix D.

WWTP Clarifier (Unit 56) is a former IS tank and is used for storage of wastewater. Unit 56 is a stainless steel, open top tank located in the secondary containment area at the WWTP. Unit 56 will be closed by removing remaining liquid as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 56 is provided in Appendix D.

Sand Filter Feed Tank (Unit 77) is a former IS tank and is used for storage of wastewater. Unit 77 is a polyethylene, open top tank located in the secondary containment area at the WWTP. Unit 77 will be closed by removing remaining liquid as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 77 is provided in Appendix D.

Sand Filter #1 (Unit 71) is a former IS tank and is used for storage of wastewater. Unit 71 is a stainless steel, closed top tank located in the secondary containment area at the WWTP. Unit 71 will be closed by removing remaining liquid and filter media as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 71 is provided in Appendix D.

Sand Filter #2 (Unit 72) is a former IS tank and is used for storage of wastewater. Unit 72 is a stainless steel, closed top tank located in the secondary containment area at the WWTP. Unit 72 will be closed by removing remaining liquid and filter media as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 72 is provided in Appendix D.

Sand Filter #3 (Unit 73) is a former IS tank and is used for storage of wastewater. Unit 73 is a stainless steel, closed top tank located in the secondary containment area at the WWTP. Unit 73 will be closed by removing remaining liquid and filter media as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 73 is provided in Appendix D.

Sand Filter #4 (Unit 74) is a former IS tank and is used for storage of wastewater. Unit 74 is a stainless steel, closed top tank located in the secondary containment area at the WWTP. Unit 74 will be closed by removing remaining liquid and filter media as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 74 is provided in Appendix D.

Sand Filter #5 (Unit 75) is a former IS tank and is used for storage of wastewater. Unit 75 is a stainless steel, closed top tank located in the secondary containment area at the WWTP. Unit 75 will be closed by removing remaining liquid and filter media as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, recycle the unit off-site as discussed in Section 7.8 or shipping the unit to an appropriate disposal facility. Additional information regarding Unit 75 is provided in Appendix D.

Sludge Holding Tank (Unit 54) is a former IS tank and is used for storage of clarified sludge. Unit 54 is a polyethylene, closed top tank located in the secondary containment area at the WWTP. Unit 54 will be closed by removing contents as discussed in Section 5.2, decontaminating the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 54 is provided in Appendix D.

The temporary filter press and temporary decontamination water storage feature will be decontaminated and demobilized.

4.3.24 WWTP Decontamination and Deconstruction

The WWTP area will be closed by decontaminating the floor and walls discussed in Section 8.0, and performing wipe, concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Tank pedestals will be deconstructed as discussed in Section 11.2. Additional information regarding the WWTP area is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

WWTP Sump (Unit 62) is a former IS tank and is used for collection of wastewater. Unit 62 is a double-walled stainless steel sump located in the secondary containment area at the WWTP. Unit 62 will be closed by removing liquid as discussed in Section 5.2, decontaminating the sump concurrent with WWTP floor decontamination as discussed in Section 8.0, and conducting wipe, concrete, soil and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 62 is provided in Appendix D.

4.3.21 Non-Permitted Building Roofs

Non-permitted building roofs will be decontaminated as discussed in Section 12.0.

4.3.22 Trailer Staging Area

The Trailer Staging Area (Unit 103) is a former IS container storage area and was used for storage of trailers containing dry plastic chips. Unit 103 is empty. Unit 103 has asphalt paving. Unit 103 will be closed by decontaminating the asphalt surface as discussed in Section 8.0, and performing asphalt, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 103 is provided in Appendix D.

4.3.23 Concrete Yard System (Former WWTP)

The Concrete Yard System is the location of the former WWTP. Units 15, 16, 17, 18, 19, 20, 21, 38 and 39 underwent preliminary closure and were located within the Concrete Yard System. The Concrete Yard System will be closed by removing the asphalt paving and soils beneath the paving to a depth of up to 5 feet dependent on sampling results generated during Phase 1.

50K Tank (Unit 15) was previously decontaminated and demolished. Closure of Unit 15 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

West Reaction Tank (Unit 16) was previously decontaminated and demolished. Closure of Unit 16 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

East Reaction Tank (Unit 17) was previously decontaminated and demolished. Closure of Unit 17 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

Pump Tank (Unit 18) was previously decontaminated and demolished. Closure of Unit 18 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

Sludge Tank (Unit 19) was previously decontaminated and demolished. Closure of Unit 19 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

Delta Stack Clarifier (Unit 20) was previously decontaminated and demolished. Closure of Unit 20 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

WWTP Area Sump (Unit 38) was previously decontaminated and demolished. Closure of Unit 38 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

WWTP Filter Press Sump (Unit 39) was previously decontaminated and demolished. Closure of Unit 39 will be completed as part of existing ground surface decontamination for the Concrete Yard System.

Additional information regarding the Concrete Yard System is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

4.3.24 Unregulated Area Decontamination

Site-wide unregulated areas which were not decontaminated during the aforementioned activities will be decontaminated as discussed in Section 12.0.

Water Softener Building Sump is an ancillary sump used for management of wash down water. Water Softener Building Sump is a concrete sump. Water Softener Building Sump will be closed by removing inventory as discussed in Section 5.2, decontaminating the sump as discussed in Section 8.0 concurrent with unregulated area decontamination, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Water Softener Building Sump is provided in Table 1.3.

Caustic Tank Sump is an ancillary sump used for management of wash down water. Caustic Tank Sump is a concrete sump with stainless steel liner. Caustic Tank Sump will be closed by removing inventory as discussed in Section 5.2, removing the stainless steel liner as discussed in Section 8.2, decontaminating the sump as discussed in Section 8.0 concurrent with unregulated area decontamination, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Caustic Tank Sump is provided in Table 1.3.

Ancillary sump Railroad Sump is ancillary to former IS units and is used for management of storm water. Railroad Sump is a concrete sump. Railroad Sump will be closed by removing accumulated liquid as discussed in Section 5.2, decontaminating the sump as discussed in Section 8.0 concurrent with unregulated area decontamination, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Railroad Sump is provided in Table 1.3.

4.3.25 Stormwater System

DTSC has indicated that the stormwater system is ancillary to Unit 46. As discussed in Section 6.7, the stormwater system will be cleaned prior to final closure of the Drop Out System. Wipe sampling and structure sampling (if needed) will be conducted as discussed in Section 7.4. Soil sampling along the pipe alignment and pressure testing of the stormwater system will be conducted as discussed in Section 10.2.2.

4.3.26 Drop Out System

The Drop Out System is a secondary containment area with concrete floor and walls within the Central Container Storage Building (Unit 1). Units 46, 47, 48, 49 and 50 are located within the secondary containment area at the Drop Out System.

Pump Sump (Unit 46) is a former IS tank and is used for storage of stormwater and wash down water. Unit 46 is a double-walled stainless steel sump located in the secondary containment area at the Drop Out System. Unit 46 must remain operational for management of stormwater runoff. Unit 46 will be initially cleaned by removing remaining contents as discussed in Section 5.2, concurrent with Drop Out System floor decontamination as discussed in Section 8.0, and conducting wipe sampling of the exposed surfaces as discussed in Section 9.0. The Unit 46 stainless steel liner will not be removed until Phase 2 Closure. Additional information regarding Unit 46 is provided in Appendix D. Unit 46 will continue to operate after closure to continue management of stormwater after Phase 1 as discussed in Section 2.8.3.3.

Settling Tank No. 1 (Unit 47) is a former IS tank and is used for storage of stormwater and wash down water. Unit 47 is a polyethylene, open top tank located in the secondary containment area at the Drop Out System. Unit 47 will be closed by removing remaining contents as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 47 is provided in Appendix D.

Settling Tank No. 2 (Unit 48) is a former IS tank and is used for storage of stormwater and wash down water. Unit 48 is a polyethylene, open top tank located in the secondary containment area at the Drop Out System. Unit 48 will be closed by removing remaining contents as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 48 is provided in Appendix D.

Settling Tank No. 3 (Unit 49) is a former IS tank and is used for storage of stormwater and wash down water. Unit 49 is a polyethylene, open top tank located in the secondary containment area at the Drop Out System. Unit 49 will be closed by removing remaining contents as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 49 is provided in Appendix D.

Settling Tank No. 4 (Unit 50) is a former IS tank and is used for storage of stormwater and wash down water. Unit 50 is a polyethylene, open top tank located in the secondary containment area at the Drop Out System. Unit 50 will be closed by removing remaining contents as discussed in Section 5.2, cleaning the interior and exterior of the tank as discussed in Section 6.0, conducting confirmation sampling, and, based on the results, shipping the unit to an appropriate disposal facility. Additional information regarding Unit 50 is provided in Appendix D.

The Drop Out System area will be closed by decontaminating the secondary containment area floor and walls as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding the Drop Out System area is provided in Table 1.2 and the Closure Cost Estimate (Appendix I).

4.3.27 Surface Impoundment

The Stormwater Surface Impoundment (Unit 78) is a lined surface impoundment with three sumps. The surface impoundment is constructed with a double-liner and leak detection system. The liner system is made up of (from top to bottom) a 60-MIL HDPE geomembrane over-liner, a 110-MIL geotextile fabric, a 40-MIL HDPE geomembrane under-liner, and a 110-MIL geotextile fabric. Unit 78 will be closed by removing and treating stormwater contained therein as discussed in Section 5.2, decontaminating the impoundment as discussed in Section 6.6, performing geomembrane sampling as discussed in Section 7.4.2, and performing soil, and soil gas sampling as discussed in Section 10.0. The surface impoundment will be inspected by a Professional Engineer, and the geosynthetic liner system repaired as discussed in Section 10.2.3. Unit 78 will continue to operate for stormwater management after Phase 1 as discussed in Section 2.8.3.3. Additional information regarding Unit 78 is provided in Appendix D.

4.3.28 West Yard Truck Wash

West Yard Truck Wash (Unit 87) is a former IS tank and is used for collection of wash water. Unit 87 is a concrete sump. Unit 87 will be closed by removing inventory as discussed in Section 5.2, decontaminating the sump as discussed in Section 8.0, and performing concrete, soil, and soil gas sampling as discussed in Sections 9.0 and 10.0, respectively. Additional information regarding Unit 87 is provided in Appendix D. The West Yard Truck Wash will remain operational into Phase 2.

4.3.29 Temporary WWTP Decontamination

The temporary WWTP will be decontaminated at the end of Phase 1. The temporary WWTP will remain on-site for treatment of stormwater prior to and during Phase 2 and decontamination water during Phase 2.

4.4 CLOSURE OF FORMER UNITS

Decontamination and demolition of the former WWTP (Units 11, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 38, and 39) was completed on February 11, 2009 in accordance with the approved Decommissioning Plan. A Preliminary Closure Report was submitted on February 17, 2009. A copy of the report is provided as Appendix O. As summarized in the Preliminary Closure Report, sampling of the former concrete containment area and underlying soils was not completed at the time of unit removal to determine if the concrete has been adequately cleaned or if operations associated with the former WWTP have impacted underlying and surrounding soils. Soil sampling has been performed at former WWTP Units 15 to 21, 38 and 39 in the South Yard as part of the ongoing RFI. Soil sampling at former WWTP Units 22, 23, 29 and 30 at the Baghouse Building was performed as part of the ongoing RFI. Soil sampling at former WWTP Units 11 and 26 to 28 will be performed as part of closure sampling for the RMPS Building as shown on Figure 9.1. Remediation of the former WWTP units, if needed, will be conducted under Corrective Action. A post-closure permit application will be submitted if closure performance standards are not achieved.

While the Original Flue Dust Slurry Sumps were previously decontaminated and demolished, the concrete and soil sampling at these features will be conducted as part of the Closure Plan as shown on Figure 9.1 as these units are located beneath the current North and South Flue Dust Slurry Tanks (Units 31 and 32).

Cleaning and removal of Units 64 and 65 was completed between October 16,2009 and November 9, 2009. Exide determined the tanks were not required for current operations and made the decision to close them. The tanks were decontaminated and demolished. The report for these activities is provided as Appendix P. Soil and concrete sampling has not yet been conducted. The sampling for these units will be performed during Phase 1 Closure as shown on Figure 9.1 and removal of concrete and soil as appropriate to achieve the Closure Performance Standards will be completed in accordance with Section 3.2.3 and 3.2.8.

4.5 EQUIPMENT

As noted in Section 4.3, the following existing units are proposed for use during and, in some cases, after Phase 1:

Unit 1, Central Container Storage Building
Unit 87, West Yard Truck Wash
Units 7, 8 and 9, Mud Tanks (if needed)
Unit 79, Surge Tank (if needed)
Unit 44, WWTP Filter Press (if needed)
WWTP (Units 52 to 63, and 71 to 77)
Unit 33, Reverb Furnace Feed Room, Corridor portion (north-south and west-east sections)
Unit 46, Pump Sump (including stormwater collection system)
Unit 78, Surface Impoundment

As noted in Section 4.3, the following equipment (excluding conventional construction equipment) is proposed for use during Phase 1:

Temporary container to collect filter cake from Unit 44, WWTP Filter Press (if needed)
Temporary filter press
Temporary decontamination water storage feature(s)

Temporary wastewater treatment plant (WWTP)

Temporary baghouse

Re-ducting of Torit and/or MAC baghouses

Additional detail for each proposed feature will be provided to DTSC, AQMD and the City of Vernon prior to mobilization of the equipment.

5.0 ESTIMATE AND MANAGEMENT OF MAXIMUM INVENTORY

Management of waste inventory will occur during Phase 1.

5.1 MAXIMUM INVENTORY OF HAZARDOUS WASTE

Waste addressed during closure includes two types: inventory within the unit and waste generated during closure. Table 1.1 summarizes the maximum operating waste inventory, and worst case (gross) inventory, actual inventory as of July 10, 2015 and provides the unit name, unit type, location, contents, density of the contents, waste code, size, and methods for content removal, transport, treatment, storage, disposal, and the off-site disposal facility. Alternate disposal facilities may be proposed by the Contractor for approval by Exide and DTSC. Table 1.2 summarizes the waste generated during closure and provides the unit name, unit type, materials of construction, size, quantities of decontamination water generated during closure, and quantities of concrete, scrap metal, soil and decontamination water generated during contingent closure. Table 1.3 summarizes the ancillary sumps, including the maximum operating waste inventory and worst case (gross) inventory, wastes generated during closure, and wastes generated during contingent closure. Table 2.2 summarizes the unit name, contents, waste codes, unit size, materials of construction, maximum inventory, gross capacity, treatment rate, treatment type, overfill protection, secondary containment, structural certification and status. Table 5.1 summarizes the maximum quantities of waste generated during inventory removal, closure and contingent closure and their respective disposal method. The quantities include waste generated by sampling activities and facility decontamination. It is expected that the facility will be closed in an orderly fashion and the amount of waste will be minimized. The maximum quantities include wastes in each unit as well as process areas.

The nature of the facility's battery recycling operations is such that no organic or other material susceptible to decomposition are accepted, processed, or generated at the facility. No waste decomposition products are known to occur at this facility.

5.2 REMOVAL AND MANAGEMENT OF MAXIMUM INVENTORY

5.2.1 General

Prior to shipping waste, the Contractor will provide copies of the disposal or recycling facility's permits and information on any outstanding permit violations for the receiving facility to Exide and the Resident Engineer. Exide and the Resident Engineer will also review permit and violation information on DTSC's website. The Contractor will also provide the receiving facility's requirements for analytical data or paperwork. The receiving facility will provide an approved waste profile or waste acceptance prior to shipment of waste. The receiving facility, by virtue of its existing permits, will comply with local, state and federal regulations. Waste shipment will be conducted by the Contractor with shipping paperwork signed by Exide. A summary of locations receiving materials during closure is provided in Table 3.4.

Copies of all manifests and shipping papers will be retained for inclusion in closure documentation. The Contractor will provide legible electronic copies of all manifests and shipping papers, including signature by the receiving facility, to the Resident Engineer. The Contractor will also provide the Resident Engineer with a summary table of disposal and recycling shipments, including manifest number, shipping date, truck number, contents, weight, destination facility, and other pertinent information. The manifests and summary table shall be provided daily.

Any shipment of materials to a foreign country will comply with the requirements specified in California Code of Regulations, Chapter 12, Article 5.

Solids will be managed as hazardous wastes until characterization sampling indicates they are non-hazardous. Characterization sampling will be conducted in accordance with the Waste Characterization Plan provided in Appendix V. Additional sampling may be conducted as required by the receiving facility at the time of closure.

Reclaimable material (batteries and containers of lead bearing scrap/materials, reverb and blast furnace feed material (including reverb furnace slag), battery chips, desulfurization sludge, scrubber slurry, air emission control dust slurry, in process/partially smelted unrefined and refined lead) has been or will be removed from the facility prior to closure, except as noted in Table 1.1.

The order of presentation does not represent the sequence of closure. Sequence of Phase 1 closure is discussed in Section 4.

5.2.2 Removal and Management

Each unit will be inspected and its condition documented. Solid and liquid waste levels will be documented. Units will be accessed using scaffolding, manlifts or cranes as needed. Where liquids and solids are both present in a particular unit, liquids will be removed by pumping and managed as noted below. Where possible, liquids will be transferred through existing piping. Piping will be flushed and liquids removed by pumping and managed as noted below. Plumbing and utilities will be disconnected. Ancillary equipment such as pumps and mixers will be removed. The unit will be entered using hazardous confined space entry procedures (where applicable) and the contents removed by hand or equipment. For tanks, an opening will be cut into the tank sidewall with a hand saw for access if needed.

Additional detail for removal and management of each waste type is provided below.

5.2.2.1 **Batteries and Lead Scrap**

The Container Storage Areas (Units 1, 2 and 3) stored spent batteries and containers of lead scrap. Palletized batteries and containers of lead scrap from Units 1, 2 and 3 have been removed.

5.2.2.2 **Plastic Chips**

No trailer loads or stockpiles of plastic chips are present at the Site. Small amounts of plastic chips may be encountered while decontaminating processing equipment. Plastic chips will be managed with other waste materials and sent for disposal or recycling.

5.2.2.3 **Feed Material**

Reverb furnace feed material from the Reverb Furnace Feed Room (Unit 33) has been removed. Blast furnace feed material from the Blast Furnace Feed Room (Unit 34) will be removed from the facility prior to closure.

Battery components in the Recycle Tank (Unit 14), Waste Acid Circulation Tank (Unit 41), Acid Overflow Tank A (Unit 66) have been removed. Battery components remaining in processing equipment will be removed from the respective equipment by hand. The battery components will be loaded into appropriately permitted watertight roll-offs with covers or enclosed watertight trucks using a front-end loader. Battery components will be transported in accordance with 22 CCR 66261.6 requirements to a secondary lead smelter for recycling or disposed at an appropriately licensed disposal facility.

5.2.2.4 **Paste and Slurry**

Paste from the Mud Tanks (Units 7, 8 and 9) will be removed from the facility prior to closure. Unit 12, Paste Thickening Unit, was recently replaced and has not been used to manage paste. Any remaining residual paste will be processed in the WWTP Filter Press (Unit 44) or temporary filter press to remove excess liquids. The resulting liquids will be processed in the WWTP. The filter cake will be loaded into water tight roll-offs or water tight trucks with a front end loader. Filter cake will be transported in accordance with 22 CCR 66261.6 to a secondary lead smelter for recycling or disposed at an appropriately licensed disposal facility.

Slurry from the Flue Dust Slurry Tanks (Units 31 and 32), if any, will be removed from the tank by hand and processed in the WWTP Filter Press (Unit 44) or temporary filter press. The filter cake will be loaded into the roll-offs or trucks with a front end loader. Filter cake will be transported in accordance with 22 CCR 66261.6 to a secondary lead smelter for recycling or disposed at an appropriately licensed disposal facility.

5.2.2.5 **Lead Product**

Exide will remove lead product and drosses from the receiving and refining kettles (Units 89 to 98 and 100 to 102) during closure. Loose pieces of solidified lead will be removed by hand. Some sizing may be required to facilitate removal and shipment. The remaining solidified lead and drosses (i.e., heel) will be evaluated to determine if it can be removed by lifting with a crane or similar equipment. When the heel is less than 12 tons, the heel will be removed with a crane or similar equipment. The refinery overhead crane has a lifting capacity of 15 tons. Larger capacity cranes (i.e., mobile cranes) cannot operate in the kettle area because of the floor's limited allowable weight capacity. Thus, when the heel is greater than 12 tons, the lead product and drosses will be removed using procedures associated with the preferred alternative identified in the Environmental Impact Report. No refining will be performed. At the time of Closure Plan preparation, Exide was unable to determine which heels can be lifted versus melted as DTSC indicated that loose lead removal could not be performed prior to closure. The surface of the lead in the kettle and the surrounding area will be cleaned using a HEPA vacuum prior to and during the removal process.

Several heel removal options were evaluated during preparation of the Closure Plan as follows:

- Manual demolition: This method uses air demolition units and/or backhoe equipment with spade shaped tool to cut small pieces of lead from the larger mass. Lead is malleable and must be sliced as it will not break. This method is time consuming as cutting a 1-ton piece of lead would require 8 working hours;

cutting lead within Unit 92 containing an approximately 100 ton lead heel would require approximately 100 8-hour shifts, or 20 weeks to remove the 100 ton lead heel. This method would also require personnel to conduct confined space entry into the kettle to manually move the pieces into a skip or barrel to lift the pieces out of the kettle.

- Cutting with water cutting equipment: This method uses high pressure water to cut small pieces of lead from the larger mass. Vendors providing this service do not have experience using water cutting methods to cut a mass which is inside a kettle. A specialized robotic device with high pressure spray heads would need to be designed and built over a period of several months. A major safety concern for this approach is the ability to control the cutting to keep the kettle structurally sound and not have the lead mass and kettle suddenly collapse inside of the kettle housing. Another substantial concern for this method is management of the water used in the cutting process. A typical water cutting system uses approximately 150 gpm of water with a pump capacity designed at 20,000 to 40,000 psi. Water containing lead grit particles resulting from the cutting process must be controlled and collected for treatment. The amount of water to be collected and treated is approximately 9,000 gallons per hour (or 72,000 gallons per day or 360,000 gallons per week). The water management system necessary for this task would be significant. This method is also time consuming; water cutting would require approximately 50 8-hour shifts, or 10 weeks to implement, plus mobilization and demobilization.
- Remelting: This method uses natural gas to heat the lead until molten, and the lead is pumped out of the kettle into molds. A temporary natural gas line will be installed to service the kettles. The existing natural gas burner on the kettle setting would be started to heat the lead to about 900 degrees F in about 24 hours. The combustion products from the burner are vented from the kettle setting by the existing MAC Baghouses and associated HEPA secondary filtration. The Blast Furnace kettles are vented by the Hard Lead Baghouse and associated HEPA

secondary filtration. The Reverb Furnace kettles are vented by the Soft Lead baghouse and associated HEPA secondary filtration. The molten lead will be pumped out of the kettle via a submerged lead pump. The molten lead will be pumped into 1-ton molds and allowed to solidify into blocks that will be taken out of the molds. All of the lead within the kettle will be pumped out, except for about 5 tons of lead remaining at the bottom of the kettle below the bottom of the lead pump. The pump will be removed from the kettle and a steel beam will be lowered into the remaining molten lead. The lead will be allowed to solidify around the steel beam. The remaining solidified lead and steel beam will be lifted out of the kettle using the refinery overhead crane. The total time for this process from starting to reheat the lead and to pulling the final lead out of the kettle would take approximately 50 hours for a full (100 ton) kettle.

Any residual lead product encountered during closure will be removed by hand or equipment and will be loaded into roll-off containers or trucks approved for hazardous waste transportation with a front end loader or forklift. Lead is anticipated to be present beneath the Reverb Furnace and in the lower level (refining kettle basement) of the Smelter Building. The lead product will be transported in accordance with 22 CCR 66261.6 to a secondary lead smelter for recycling.

5.2.2.6 **Blast Furnace Slag**

Slag from the Blast Furnace (Unit 37) has been removed. Any residual amounts of slag encountered during closure will be removed by hand and/or mechanical equipment and loaded into transport vehicles meeting the requirements of 22 CCR 66263.10. Blast Furnace slag will be disposed off-site in accordance with 22 CCR 66262.10 as California-hazardous waste at a US Ecology landfill in Beatty, Nevada or alternate appropriately licensed disposal facility. If available at the time of closure, a closer facility may be utilized. Characterization sampling will be conducted in accordance with the Waste Characterization Plan in Appendix V. Additional sampling may be conducted as required by the receiving facility at the time of closure.

5.2.2.7 **Furnace Brick**

The reverb furnace was in the process of being rebuilt when the decision to close the facility waste made. New/unused brick will be removed, rinsed to remove dust, wrapped in plastic and transported for re-use at another facility or segregated from used brick for separate characterization and appropriate disposal. Following decontamination, Exide will collect one surface wipe sample per 20 new/unused bricks, or a sample rate of 5%, will be performed to determine the effectiveness of the decontamination. If hazardous, the bricks will be disposed off-site as RCRA or California hazardous waste (as appropriate based on characterization testing) at an appropriately licensed disposal facility. All bricks in contact with the brick that exceeded the MDL will be similarly tested. Used brick and any brick that did not pass the Closure Performance Standard from the reverb and blast furnaces will be removed by hand and loaded into transport vehicles meeting the requirements of 22 CCR 66263.10. The used furnace brick will be transported under hazardous waste manifest in accordance with 22 CCR 66262.10 to US Ecology in Beatty, Nevada or alternate appropriately licensed disposal facility for treatment and disposal. The transportation of this material will be handled in accordance with all applicable State and Federal Department of Transportation hazardous waste transportation requirements and will meet all applicable federal land ban requirements for lead contaminated material.

Furnace and kettle brick does not contain asbestos. Manufacturer's information for the brick is provided in Appendix AA.

5.2.2.8 **Wastewater**

Wastewater within the Truck Wash Sump (Unit 51), Pump Sump (Unit 46), Settling Tanks (Units 47 through 50), Battery Dump Bin Sump (Unit 5), RMPS Floor Sump (Unit 6), Surge Tank (Unit 79), Surface Impoundment (Unit 78), West Yard Truck Wash (Unit 87), Equalization Tank 1 (Unit 52), Equalization Tank 2 (Unit 53), Flocculation Tank (Unit 55), WWTP Clarifier (Unit 56), Reaction Tanks (Units 57 to 61), WWTP Sump (Unit 62), Sand Filter Feed Tank (Unit

77) and ancillary sumps will be removed by pumping and transferred to the WWTP for processing. If the existing WWTP is not operating then the wastewater will be transferred and processed through the temporary WWTP mobilized for closure. Treated effluent shall be discharged to the City of Los Angeles wastewater system through the facility industrial discharge permit.

The Mobile Equipment Wash Station (Unit 35), North Oxidation Tank (Unit 24), South Oxidation Tank (Unit 25), Sink/Float Separator (Unit 13), Recycle Tank (Unit 14), Waste Acid Circulation Tank (Unit 41), Acid Overflow Tank A (Unit 66), WWTP Acid Storage Tank (Unit 63), and WWTP Recycled Acid Tank (Unit 76) are empty except for solid residue.

5.2.2.9 **Sand Filter Media**

Media from the sand filters (Units 71 to 75) will be removed by cutting open the tank, and removing the media by hand. The media will be loaded into transport vehicles meeting the requirements of 22 CCR 66263.10 and transported in accordance with 22 CCR 66261.6 to a secondary lead smelter for recycling or sent for stabilization and disposal at a hazardous waste landfill.

5.2.2.10 **WWTP Sludge**

Sludge in the Sludge Holding Tank (Unit 54) at the WWTP will be decanted to remove standing liquid. The sludge will be removed by hand and loaded into water-tight roll-offs (meeting the requirements of 22 CCR 66263.10) with a front end loader. The sludge will be transported to a secondary lead smelter in accordance with 22 CCR 66261.6 for recycling.

5.2.2.11 **Surface Impoundment Sediment**

Liquid in the surface impoundment and leachate within the surface impoundment liner system will be removed by pumping and transferred to the WWTP for processing. Sediment remaining

in the surface impoundment will be removed by hand, characterized, stabilized if necessary to absorb free liquid, and loaded into transport vehicles meeting the requirements of 22 CCR 66263.10. If hazardous, the sediment will be disposed off-site as RCRA or California hazardous waste (as appropriate based on characterization testing) at US Ecology landfill in Beatty, Nevada or alternate appropriately licensed disposal facility. Characterization sampling will be conducted in accordance with the Waste Characterization Plan in Appendix V. Additional sampling may be conducted as required by the receiving facility at the time of closure.

5.2.2.12 **Acid**

Acid from the South Acid Storage Tank (Unit 10) and Acid Overflow Tank B (Unit 67) has been removed. Unit 67 contains solid residue. Exide will remove scrubber water from Unit 10 prior to closure. If residual amounts of acid are encountered when removing equipment, the acid will be placed in drums and the drums will be placed either manually or mechanically onto pallets, secured and loaded on trucks using forklifts. Drums of acid will be disposed off-site as a hazardous waste or recyclable hazardous waste at Evoqua in Los Angeles, California or alternate appropriately licensed disposal facility.

5.3 LAND DISPOSAL RESTRICTIONS

The facility will determine which wastes are subject to land disposal restrictions prior to off-site disposal. If the waste is a restricted waste that is prohibited from land disposal, the facility will notify the receiving facility in writing of the treatment standards and prohibition of land disposal. If the facility determines that a restricted waste can be land disposed without further treatment, a notice and certification that the waste meets all applicable treatment standards will be provided to the receiving facility for each shipment of waste. The facility will comply with all land disposal restriction requirements when shipping hazardous wastes to off-site waste management facilities.

5.4 CHANGES IN MAXIMUM INVENTORY

Not applicable.

5.5 HAZARDOUS MATERIALS

As part of normal operations, Exide maintains materials which are hazardous, but which are not hazardous wastes, at the facility. The Hazardous Materials Inventory includes the identity and quantity of the materials and is provided in Appendix K. Exide will remove these materials from the facility as closure activities allow. For example, materials needed for existing WWTP operations will remain on-site until the existing WWTP is closed. Exide will maintain the Hazardous Materials Inventory until all hazardous materials are off-site.

6.0 DECONTAMINATION PROCEDURES FOR UNITS AND EQUIPMENT

Decontamination of units and equipment will occur in Phase 1.

6.1 GENERAL

Prior to decontamination of units, equipment, areas or buildings, engineering controls for liquids provided in Appendix G will be implemented.

Following removal of the waste inventory, former IS units and equipment will be decontaminated to meet required closure performance standards provided in Section 3.2. Decontamination water will be collected at existing sumps and low points, removed with a pump, and transferred to the WWTP or temporary WWTP for processing. Hoses outside of the containment area will be double contained. A shop vac may also be used to collect small quantities of liquids for transfer to the WWTP or temporary WWTP.

This section provides general procedures. Specific procedures for units are provided in the Work Breakdown Structure in Appendix D.

6.2 TANK DECONTAMINATION

Plastic tanks will be visually inspected at the time of closure and a decision will be made based on condition of the tank regarding cleaning and non-hazardous disposal versus removal of gross solids and hazardous disposal.

The interior of each plastic former IS tank, not destined for disposal as a hazardous waste, and all steel tanks will be triple rinsed with a pressure washer from top to bottom. If needed, a stiff bristle broom and water will be used on surfaces to remove sediment after the first rinse. The exterior of each former IS tank will be rinsed one time from top to bottom with a pressure

washer. The goal for pressure washing for tanks not destined for disposal as a hazardous waste is provided in Section 3.2.1. Piping, pumps, valves, and ancillary equipment will also be triple rinsed with a pressure washer from upstream to downstream. Rinse water will be collected in the bottom of the tank and the secondary containment area within which the tank is located. Plastic tanks being sent directly for disposal as a hazardous waste shall be cleaned inside and out with a single wash using a pressure washer to achieve the goal discussed in Section 3.2.1.

The West Yard Truck Wash Sump (Unit 87) and Mobile Equipment Wash Station (Unit 35) will be cleaned by vacuuming with a HEPA vacuum and washing using a pressure washer.

The forklift or front end loader used during equipment removal will also be decontaminated.

6.3 MISCELLANEOUS UNIT DECONTAMINATION

Each former IS miscellaneous unit will also be pressure washed from top to bottom. The housing at each kettle will also be pressure washed. The goal for pressure washing is provided in Section 3.2.2. Piping, pumps, valves and ancillary equipment will also be pressure washed from upstream to downstream.

6.4 TRAILER STAGING AREA

The Trailer Staging Area (Unit 103) is paved with asphalt. The area will be vacuumed with a HEPA vacuum and washed with a pressure washer.

6.5 FORMER UNITS

The footprint of previously closed units which are not located within building footprints will be cleaned to remove hazardous waste constituents by vacuuming with a HEPA vacuum and

washing using a pressure washer. These units are included in the Concrete Yard System (Former WWTP).

Previously closed units which are located within building footprints will be cleaned concurrently with the building floor as discussed in Section 8.3.

6.6 SURFACE IMPOUNDMENT

The surface impoundment will be cleaned by pressure washing from the top of slope to bottom of slope. Soft bristle brooms may be used to loosen sediment as needed. Decontamination water will be collected at the existing low points.

6.7 STORMWATER MANAGEMENT SYSTEM DECONTAMINATION

The replacement stormwater management system piping and manholes are proposed to remain in-place following completion of Phase 1 and possibly Phase 2 Closure activities as discussed in Section 2.8.3.3. DTSC has indicated that the stormwater management system is ancillary to Unit 46. The 3,100 lf of piping and manholes will be cleaned using jetting techniques as determined by direct visual examination or color video inspection. Any sediment removed from the stormwater system will be placed in drums or dump trucks for off-site disposal at a hazardous waste facility as discussed in Section 5.2.2.11.

Stormwater management system closure performance standards are provided in Section 3.2.4.

After completion of stormwater system cleaning, stormwater treatment will be required until sampling can demonstrate that runoff meets the requirements for discharge.

Pressure testing of the stormwater system is discussed in Section 10.2.2.

6.8 CLOSURE EQUIPMENT CLEANING

Equipment such as fork lifts, front end loaders, and pumps used during inventory removal and cleaning activities will also be triple rinsed with a pressure washer. The goal for cleaning is visually clean.

6.9 RESIDUE MANAGEMENT

Any remaining lead residue following decontamination activities will be drummed and transported, as a reclaimable material, to a RCRA regulated secondary lead recycler for lead reclamation or sent for treatment (as appropriate) and disposal as a hazardous waste.

6.10 EMISSION CONTROL EQUIPMENT

The Contractor is required to determine the most appropriate means and methods for completing emission control equipment decontamination and deconstruction in a manner that is safe for all personnel on or in the facility, meets all applicable regulations, and is protective of human health and the environment. Those means and methods shall be described in the Contractor's Implementation Plan. The approach described below is provided as a general approach for regulatory review. Significant variation will require review and approval by the DTSC and/or AQMD.

Emission Control Equipment decontamination and removal shall be performed when gutting and interior cleaning of a building under negative pressure is substantially complete, except for those portions of the emission control equipment needed to maintain negative pressure. To the extent possible the exterior of emission control equipment (including duct work) shall be cleaned as part of the building interior cleaning. Work will commence at the most distant air intake hood and progress in the direction of air flow, towards the baghouse. To the extent possible, the Contractor will be required to perform gross cleaning of duct work before removal and with the

emission control equipment still active. This is expected to require section by section removal while working on manlifts or similar equipment, and the use of HEPA vacuums to remove accumulated dust inside each section and accumulated dust on the outside of each section not accessible during building interior cleaning prior to removal of each section. After gross cleaning of a particular section, the cleaned section shall be disconnected (cold cutting or breaking at connections), both ends covered with plastic sheeting and secured with duct tape, and lowered to the ground in a horizontal fashion using appropriate techniques and equipment to prevent generation of dust. Once on the ground, the plastic covering the ends shall be removed and the interior will be scraped and pressure washed to remove dust and dirt that can become mobilized during subsequent handling (for duct work proposed for reuse at another Exide facility or being sent for disposal) and until a clean debris surface is achieved and confirmation wipe samples indicate that the metal ducts can be sent off-site as discussed in Section 7.8 or shipped to a disposal facility.

If needed, a portion of the duct work may remain in-place during deconstruction to provide negative pressure to the area.

Once the duct work has been removed all the way back to the emission control equipment, the duct shall be blinded and the interior of the equipment cleaned following manufacturer's operating procedures. This is expected to include removal of bags and cartridges, emptying dust hoppers, bins and conveyance equipment, vacuum cleaning and pressure washing all interior and exterior surfaces, and surface wipe sampling to confirm decontamination.

7.0 CONFIRMATION SAMPLING AND MANAGEMENT OF DECONTAMINATED TANKS AND EQUIPMENT

Confirmation sampling and management of tanks and equipment will occur during Phase 1.

7.1 SAMPLING OBJECTIVES/PURPOSE

Confirmation sampling will be conducted after decontamination of units and equipment intended to remain on-site and/or shipped off-site for re-use or recycling to confirm decontamination is achieved. The locations and boundaries of each unit are provided on Figure 2.2. Additional detail for each unit is provided in Appendix D.

All samples collected during closure will be collected by or under supervision of a California registered Civil Engineer or Geologist and in accordance with the Sampling and Analysis Plan provided in Appendix A. Confirmation sampling will be required for tanks and equipment destined for re-use at an alternate facility, off-site use as furnace flux material at a secondary lead smelter or for scrap metal recycling. Characterization sampling (TTLC/STLC for wastes being disposed of in California, and TCLP for wastes being disposed out of state) will be required for materials and equipment destined for disposal.

7.2 WIPE SAMPLES

The effectiveness of decontamination on steel tanks, ancillary equipment and miscellaneous units will be determined by collecting wipe samples. For large areas, wipe samples will be collected using a random grid, or otherwise biased towards areas where waste was managed or came into contact with the surface. Methods for collection and analysis of wipe samples are provided in Appendix A, Sampling and Analysis Plan.

Steel Tanks – Wipe samples will be collected every 300 sf of tank interior, and a minimum of three samples per covered tank (one each from interior top, bottom and side) and two samples per open top tank (one each from interior bottom and side).

Steel Miscellaneous units –Wipe samples will be collected every 300 sf of interior surface. A minimum of three wipe samples will be collected from the interior of each miscellaneous unit.

Wipe samples may not be appropriate for every surface (e.g., porous surfaces). Chip samples discussed in Section 9.3 may be required for any other surfaces other than metal tanks, epoxy-coated surfaces, vinyl liners etc.

The performance standard for steel tanks, equipment and piping which will remain on-site is provided in Section 3.2.1.4.

7.3 EQUIPMENT RINSATE SAMPLING

Decontamination of equipment that cannot be wipe sampled, if any, will be conducted by analyzing rinse water that has passed through the equipment. A summary of anticipated equipment at the time of closure is provided in Table 7.1. The determination that equipment cannot be wipe sampled will be made by visual evaluation by the Contractor and Resident Engineer. Following decontamination of the equipment by rinsing three times with a pressure washer as discussed in Section 6.0, laboratory-supplied deionized water will be passed through the equipment and collected in the sample jar. A minimum of one sample will be collected for equipment associated with each particular unit.

7.4 STORMWATER SYSTEM SAMPLES

7.4.1 Stormwater Piping and Manholes

Near the end of Phase 1 Closure, the stormwater system piping and structures, Unit 46 and surface impoundment will be flushed and cleaned to remove accumulated sediment. Wipe samples will be collected from the flow line at the down-slope end of each HDPE pipe run, at the bottom of each HDPE manhole and within the Unit 46 stainless steel insert. Results of the Phase 1 sampling will provide information regarding the effectiveness of cleaning efforts on the system, indicate if more aggressive cleaning is required for portions of the system that may remain in-place following completion of Phase 2 Closure, and will be considered while developing Phase 2 plans for removal and reconfiguration of the stormwater system. Regardless of wipe sample results that may exceed the MDLs, the stormwater system will remain operational into Phase 2, and Exide will continue to collect and treat all stormwater through the temporary WWTP.

At the end of Phase 2, the stormwater collection system will be removed, including the Unit 46 primary concrete tank. Wipe samples will be collected to demonstrate the performance standards (22 CCR 66265.197) for the stormwater management system piping and manholes have been achieved. If the wipe sample result is greater than the method detection limit, then that portion will be decontaminated or managed as a waste.

Soil sampling must be performed along the alignment of the pipe as described in Section 10.2.2.2.

Wipe samples will be analyzed for CAM-17 total metals. HDPE pipe samples will be sampled at the downstream end of the pipe on the interior bottom surface, approximately 1 foot upstream from the end of the pipe. HDPE manhole samples will be collected at the bottom of the manhole.

If needed, HDPE destructive samples will be collected at HDPE pipe and manhole locations where wipe samples did not meet the performance standard. HDPE samples will be collected by scraping, grinding or cutting adequate sample volume from the HDPE surface to a depth of 0.2 +/- inches. HDPE pipe and manhole samples will be at the same location as the wipe sample; however, the sample area may be expanded to obtain adequate volume for lab analysis.

Waste Extraction Test (WET) will be performed when the concentration for a contaminant of concern (COC) in a solid, as determined through TTLC testing, is below the TTLC level (22 CCR 66261.24) but greater than 10 times (by rule of thumb) the STLC. If the WET result is greater than the STLC, the item/media sampled is considered hazardous, even if the TTLC result is less than the TTLC level.

If the TTLC result is above the TTLC level, then the item/media sampled is considered hazardous waste, even without the STLC result. If the TTLC result is less than 10 times the STLC level in 22 CCR 66261.24, then the item/media sampled is considered non-hazardous, even without the STLC result.

The stormwater management system will be removed as part of Phase 2. If sections not meeting the cleanup standards are located within areas of the site approved by DTSC for closure with hazardous waste in-place, Exide may seek DTSC approval to abandon (via in-place grouting or similar techniques) said components and manage as part of the hazardous waste-in-place closure designation.

7.4.2 Surface Impoundment

Following decontamination of the Surface Impoundment liner system in Phase 1, initial samples of the primary and secondary geomembranes will be collected at 25% of proposed sample locations concurrent with soil sampling. The geomembrane samples will be analyzed at a frequency of one sample every 2,600 sf. Results of the initial sampling will provide information regarding the effectiveness of cleaning efforts on the geomembranes, indicate if more aggressive

cleaning is required for portions of the geomembrane that may remain in-place following completion of Phase 2 Closure, and will be considered while developing the portion of the Phase 2 Contingent Closure Plan related to removal and/or replacement of the geomembrane. Regardless of wipe sample results that may exceed the MDLs, the existing stormwater pond geomembrane will remain until the completion of Phase 2. Exide will continue to collect and treat all stormwater through the temporary WWTP.

Waste Extraction Test (WET) will be performed when the concentration for a contaminant of concern (COC) in a solid, as determined through TTLC testing, is below the TTLC level (22 CCR 66261.24) but greater than 10 times (by rule of thumb) the STLC. If the WET result is greater than the STLC, the item/media sampled is considered hazardous, even if the TTLC result is less than the TTLC level.

If the TTLC result is above the TTLC level, then the item/media sampled is considered hazardous waste, even without the STLC result. If the TTLC result is less than 10 times the STLC level in 22 CCR 66261.24, then STLC analysis is not necessary.

Geomembranes will be removed. If underlying soil sample results indicate contaminant concentrations are at or below background concentrations based on complete sampling (1 sample/650 sf) performed in the end of Phase 2, then the Surface Impoundment meets the closure performance standards. If the underlying soil sample results indicate contaminant concentrations are above background concentrations, then the data will be used to make decisions about removal as discussed in Section 16.

As previously noted in Section 3.2, remediation of contaminated material below hazardous-waste levels but above the Closure Performance Standards developed as clean-up levels during CA is anticipated to occur during closure to meet the performance goals for closure of the facility.

7.5 QUALITY CONTROL PROCEDURES

Quality control procedures including field duplicates, trip blanks, equipment blanks, matrix spike and matrix spike duplicates (as appropriate); chain of custody procedures; sample labeling, packaging and transportation; and documentation will be conducted as discussed in Section 14.0.

7.6 ANALYTICAL TEST METHODS

Wipe samples, and equipment rinsate samples will be analyzed for total metals as indicated in Table 10.1.

All sample analyses will be performed in accordance with the latest versions of 40 CFR Part 261, Appendix III and EPA publication SW-846 entitled "Test Methods for Evaluating Solid Waste." Additional information regarding analytical methods is provided in Appendix A, Sampling and Analysis Plan. Upon completion of the analyses, the laboratory will complete a report and submit to the project engineer. The report will include the sample identification code, reporting limits, date sampled, date analyzed, analytical method used, and the analytical results.

7.7 EVALUATION OF RESULTS

Method detection limits and reporting limits are summarized in Appendix A.

7.7.1 Rinsate Samples

If equipment rinsate sample results are less than the method detection limit, decontamination will be determined to be adequate and the representative surface/unit adequately cleaned.

If equipment rinsate results exceed the performance standard, the equipment will be managed as a waste.

7.7.2 Wipe Samples

The cleanup level for steel tanks and equipment intended to remain on-site for re-use will be the method detection limit (MDL) for wipe samples. Wipe sample results below the MDL identified for wipe samples will be considered absent of hazardous constituents and deemed clean. If wipe sample results are above the MDLs, Exide will have the choice of re-cleaning and re-testing; destructively testing to demonstrate performance standard are met; or address the feature in Phase 2. For painted surfaces, Exide may conduct a lead base paint analysis using an XRF or paint chip samples. If the wipe sample fails for lead, the surface is coated with paint containing lead, and the surface is visibly free of dirt and residuals, Exide will request DTSC approval for the equipment to remain on-site.

7.8 REMOVAL OF DECONTAMINATED UNITS

7.8.1 Tanks and Miscellaneous Units

Decontaminated (confirmation sample results indicate concentrations of contaminants of concern less than the performance standards in Appendix BB) former IS tanks and miscellaneous units and kettle housings will be removed for off-site re-use at an alternate facility, off-site use as furnace flux material (steel), scrap metal recycling (steel), or disposal (used brick, plastic or fiberglass).

Equipment intended for re-use at an alternate facility is summarized as follows:

- Unit 12, Paste Thickening Unit (Exide Muncie, Indiana);
- Unit 36, Reverb Furnace (brick, burners, feed screws) (Exide Canon Hollow, Missouri);
- Unit 37, Blast Furnace (crucible) (Exide Muncie, Indiana);
- Unit 40, Hammer Mill with hydraulic system (Exide Muncie, Indiana);

- Unit 55, Flocculation Tank (Exide Canon Hollow, Missouri);
- Unit 69, Rotary Kiln (Exide Muncie, Indiana);
- Unit 79, Surge Tank (Exide Muncie, Indiana); and,
- Units 89 to 102, Kettles (Exide Muncie, Indiana).

Exide will review the kettles and identify kettles eligible for re-use. Remaining kettles will be cut up and recycled as scrap metal.

Decontaminated steel tanks and miscellaneous units will be cut up and loaded for recycling as scrap metal. The cost estimate assumes a scrap metal recycler within 15 miles would be used. Scrap metal will be decontaminated to meet the receiving recycling facility's requirements, and confirmation samples will confirm concentrations of contaminants of concern less than the performance standards in Appendix BB.

In the event that steel does not meet the performance standards, the steel will be subject to a wipe test or destructive testing will be performed to indicate performance standards have been met, or the steel will be disposed off-site.

Plastic tanks will be sized to facilitate handling, characterized for disposal purposes, loaded for disposal at an appropriately licensed disposal facility. The cost estimate assumes disposal of non-hazardous debris at a facility in Los Angeles, California; however, an alternate facility may be used.

7.8.2 Emission Control Equipment

Following gross cleaning with a HEPA vacuum, emission control equipment will be unbolted and dismantled. Equipment intended for reuse will be decontaminated with a pressure washer and shipped off-site.

8.0 DECONTAMINATION PROCEDURES FOR CONTAINMENT STRUCTURES AND BUILDINGS

Decontamination of containment structures and buildings will occur during Phase 1.

8.1 GENERAL

Following removal of the inventory, tanks, miscellaneous units and equipment, secondary containment structures and building interiors will be decontaminated. Structures and buildings will be decontaminated starting at the highest point (ceiling/rafters) and working down. Decontamination water will be collected for processing in the temporary WWTP.

Building and containment structure decontamination adequacy is discussed in Sections 3.2.3 and 3.2.5. Structural steel and metal siding intended for off-site recycling will also meet DOT rules for shipment, and meet requirements imposed by the recycling facility.

Concrete walls, tank pedestals and equipment foundations deconstructed during Phase 1 will not be crushed and re-used as backfill. These materials will be disposed off-site.

This section provides general procedures. Specific procedures for units are provided in the Work Breakdown Structure in Appendix D.

The controlling employer per Article 4.5, Multi-Employer Worksites, will ensure that all pits, vaults, sumps, and floor-openings which previously held process equipment (e.g. kettles, etc.) are guarded in a manner consistent with provisions found within 8 CCR 3212 (Floor Openings, Floor Holes and Roofs).

8.2 SECONDARY CONTAINMENT AREA DECONTAMINATION

Following decontamination, sampling, and disposal of units within a particular secondary containment area, the secondary containment area floor and curbing will be cleaned by vacuuming with a HEPA vacuum and pressure washing with a pressure washer. Concrete surfaces in high-use areas, or areas with extensive operations may have higher levels of contamination or corrosion. These areas may also be cleaned using hydro-demolition or abrasion techniques that pulverize or grind away a pre-determined surface depth. The goal of cleaning will be to achieve a visually clean surface with no visible waste prior to conductive chip/core sampling. Secondary containment areas located within structures operated under negative pressure will be decontaminated while the building is still under negative pressure.

Secondary containment areas at the facility are the Container Storage Buildings (Units 1, 2 and 3), Desulfurization (Mud Tank) Area, RMPS Area, RMPS lower level, WWTP area, Drop Out System, and Oxidation Tank area. Additional detail regarding secondary containment areas and the units within each area is provided in the unit information in Appendix D. Former IS tanks and ancillary sumps within the secondary containment areas will be cleaned concurrent with cleaning of the secondary containment area floor.

Cleaning will occur from upslope to downslope, working towards a collection point for decontamination water. Sediment accumulations will be removed using hand tools, HEPA vacuums, and appropriately sized equipment and containerized in drums for transport to a secondary lead recycler for reclamation or sent for off-site stabilization and disposal as RCRA hazardous waste. The sumps (containment area low points) will be the last area cleaned. The sumps are cast-in-place concrete, a stainless steel primary liner set in a concrete secondary liner, or primary and secondary stainless steel liners. Some sumps also have leak detection between the primary and secondary liners. Except where embedded into the cast-in-place concrete, the stainless steel liner(s) shall be removed to provide access to the concrete for the purposes of decontamination and to facilitate soil and soil gas sampling. If the containment area will

continue to be used during Phase 2, the stainless steel liner(s) will be re-installed or the remaining concrete sump will be seal coated as required in Appendix G.

Following completion of decontamination, access to the decontaminated area will be restricted to prevent cross-contamination by blocking doorways and posting signs.

8.3 BUILDING DECONTAMINATION

The interior and exterior roof, interior and exterior walls, floor or footprint of each building housing hazardous waste units will be cleaned to remove hazardous waste constituents by vacuuming with a HEPA vacuum and washing using a pressure washer. Work will progress from top to bottom. Horizontal surfaces shall be vacuum cleaned with a HEPA vacuum before the start of pressure washing. Exterior walls are expected to have a lesser amount of dust accumulation as they have been exposed to the elements. The exterior walls will be decontaminated using a HEPA vacuum and pressure washer with a focus on visible dust accumulations. The buildings subject to decontamination are the Reverb Furnace Feed Room and Blast Furnace Feed Room Containment Buildings, RMPS building (the portion that was not already decontaminated during secondary containment area cleaning), Desulfurization Building, Rotary Kiln enclosure within the Baghouse Building, Smelter Building, Baghouse Building and Finished Lead building.

Former IS units and ancillary sumps will be cleaned with a HEPA vacuum and washed with a pressure washer concurrent with and at the end of floor cleaning.

The ceiling will be cleaned first, followed by the interior walls from top to bottom. The floor will be cleaned next from upslope to downslope, working towards a collection point for decontamination water. Sediment accumulations will be removed using hand tools and containerized in drums for transport to a secondary lead recycler for reclamation or sent for off-site stabilization and disposal as RCRA hazardous waste.

Lower levels will also be decontaminated using these procedures after decontaminating the upper levels.

The exterior roof of all buildings at the facility will also be cleaned by vacuuming with a HEPA vacuum and washing with a pressure washer, including buildings which do not contain former IS units. A detailed list of buildings which do not contain former IS units is provided in Section 12.0.

Additional detail regarding building dimensions is provided in Table 1.2.

Following completion of decontamination, access to the area will be restricted to prevent cross-contamination by blocking doorways and posting signs.

8.4 BUILDING GUTTING

Building gutting refers to the removal of non-regulated units and ancillary equipment, and non-structural building elements such as equipment, utilities, piping, control rooms, insulation, wiring and fixtures. Building gutting will occur concurrent with decontamination activities. Hazardous and TSCA waste material identified in the environmental survey (bulbs, ballasts, PCB transformers, batteries, miscellaneous chemicals, petroleum products, etc.) will be removed, sorted and containerized for off-site disposal or recycling. If the respective component is not damaged or leaking, the Contractor shall place the component in a sealable, suitable container (i.e., boxes for lamps, metal drums for ballasts). If the component is damaged to the extent that potentially hazardous materials could be released or are leaking, the Contractor will place the entire device in an appropriately labeled, sealable, water tight drum. Following the removal of all light lamps, ballasts, batteries, and transformers, the Contractor shall remove the remaining fixture, conduct a final cleaning, crush the fixture and place the fixture in a DOT-approved roll-off for subsequent recycling or disposal. All PCB-contaminated materials shall be properly containerized and labeled in compliance with TSCA and all applicable local, state and federal regulations.

Non-structural components which cannot be removed without affecting building integrity will be decontaminated with a HEPA vacuum and pressure washer and wrapped with plastic for subsequent removal during building dismantlement.

Lower levels will be also gutted using these procedures.

8.5 UTILITY TERMINATION

Utility termination will be conducted in conjunction with building decontamination, gutting and deconstruction as discussed in Section 4.2.3.

8.6 ASBESTOS ABATEMENT

Asbestos abatement will be conducted prior to decontamination activities (i.e., HEPA vacuuming and pressure washing) if the decontamination activities could damage the asbestos.

8.6.1 Preparation and Training

The Contractor will review the Asbestos Survey Report and locate the friable and Class I and II non-friable asbestos. The Contractor will develop sequences and procedures for the removal of friable and Class I and Class II non-friable asbestos containing material (ACM) that account for protection of the workers, the public, the environment and that control the transmission of dust and cross-contamination of surrounding areas and is compliant with applicable federal, state and local regulations.

As part of the Implementation Plan, the Contractor shall prepare an ACM Removal Plan for review by Exide, the Resident Engineer, and DTSC prior to implementation and for inclusion in required permits and authorizations. The ACM Removal Plan shall summarize the types and location of ACM to be removed and the methods for removal.

At least one on-site representative for the Contractor will have successfully completed the Asbestos Abatement Contractor/Supervisor course pursuant to Asbestos Hazard Emergency Response Act (AHERA), and maintain accreditation as a AHERA Asbestos Abatement Contractor/Supervisor. Workers will have successfully completed the Abatement Worker course per AHERA. Supervisor and workers trained in provisions of SCAQMD Rule 1403, 40 CFR Part 61.145, 61.146, 61.147 and 61.152 and Part 763 shall be present during stripping, removing, handling or disturbing of ACM.

8.6.2 Asbestos Removal

All asbestos containing material (ACM) will be removed in conjunction with building decontamination and gutting and prior to building deconstruction. Asbestos abatement will be conducted in accordance with SCAQMD Rule 1403 and City of Vernon requirements. ACM removal will be conducted using one of the methods provided in Rule 1403 (d)(1)(D), including HEPA Filtration, glovebag, adequate wetting, dry removal and/or approved alternatives. ACM identified after the deconstruction begins will also be removed pursuant to Rule 1403 (d)(1)(D).

ACM will be placed in transparent, leak-tight, labeled containers or wrapping. The container will be kept in a locked enclosed storage area when not in use. The ACM will be disposed off-site at an appropriately licensed facility.

All surfaces in the isolated work area will be cleaned with a vacuum system using HEPA filtration, or wet mopping and wipe down with water prior to dismantling of plastic barriers or sealed openings.

8.6.3 Documentation

The following documentation will be maintained on-site:

- California State Contractor's License certification number;
- Cal/OSHA Registration Number;
- Copies of surveys; and,
- Copies of notifications.

Records will be maintained for not less than 3 years, including:

- Survey-related documents;
- Notifications;
- Written approvals;
- Waste shipment records;
- Employee Training materials; and,
- Training and accreditation certificates.

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9.0 CONFIRMATION SAMPLING OF DECONTAMINATED CONTAINMENT STRUCTURES AND BUILDINGS

Confirmation sampling of decontaminated containment structures and buildings will occur during Phase 1.

9.1 SAMPLING OBJECTIVES/PURPOSE

Confirmation sampling will be conducted after decontamination to confirm that floors, metal surfaces, concrete secondary containment areas, container storage buildings, building walls, and lower levels intended to remain in-place have been decontaminated properly. Concrete walls proposed for demolition will also be sampled for disposal characterization purposes. The locations and boundaries of each unit are provided on Figure 2.2. Additional detail for each unit is provided in Appendix D.

All samples collected during closure will be collected by or under supervision of a California registered Civil Engineer or Geologist and in accordance with the Sampling and Analysis Plan provided in Appendix A. Sample locations must be approved by and collected under the oversight of DTSC.

9.2 METAL SURFACES

9.2.1 Steel – Recycled Off-Site

The effectiveness of decontamination on decontaminated metal building walls and ceilings, and structural steel proposed for deconstruction and intended for off-site scrap metal recycling or disposal will be determined by the requirements of the closure performance standard. All scrap metal will be sampled and analyzed to ensure that all waste residues have been removed, or cleaned to the performance standards in Appendix BB. The materials intended for off-site

recycling or disposal will also meet waste stream characterization requirements for the facility receiving the materials and shipping requirements.

9.2.2 Steel – Remain On-Site

The effectiveness of decontamination on decontaminated metal building walls (both sides) and interior and exterior roofs, and structural steel proposed to remain on-site and not intended for deconstruction will be determined by collecting wipe samples. For large areas, wipe samples will be collected using a random grid, or otherwise biased towards areas where waste was managed or came into contact with the surface. Methods for collection and analysis of wipe samples are provided in Appendix A, Sampling and Analysis Plan.

Building walls – A wipe sample will be collected every 300 sf per each wall intended to remain in-place. A minimum of three (3) samples per wall will be taken.

Building roofs – A wipe sample will be collected every 500 sf per each roof intended to remain in-place. A minimum of three (3) samples per roof will be taken.

Wipe samples may not be appropriate for every surface (e.g., porous surfaces). Chip samples discussed in Section 9.3 may be required for any other surfaces other than metal siding, epoxy-coated surfaces, vinyl liners etc.

9.3 CHIP SAMPLES

Concrete or asphalt "chip" samples will be collected once per 1,000 sf of concrete or asphalt floor, and a minimum of 5 locations per secondary containment area, plus one additional sample for each additional unit and ancillary sump in secondary containment areas containing multiple units. Chip samples will be collected at sumps. Chip samples will be collected once per 1,000 sf of concrete for both sides of walls to evaluate whether closure performance standards have been met. Chip samples will be collected one per 1,000 sf of concrete wall (both sides) and pedestals

for disposal characterization purposes and to determine whether a temporary enclosure is needed during demolition. Samples will be co-located with confirmatory soil samples collected on the aforementioned locations and co-located with preferential confirmatory soil samples selected because of damaged and/or degraded, stained or cracked concrete or asphalt as described in Section 10.0. Sample locations are provided on Figure 9.1.

The effectiveness of secondary containment area and floor decontamination will be determined by collecting chip samples. Chip samples will be collected in accordance with Sampling and Analysis Plan provided in Appendix A.

9.4 CORE SAMPLES

Concrete or asphalt core samples will be completed within those areas where multiple layers of flooring are identified during the soil sampling activities, where extensive surficial degradation may be present that may not be accurately characterized by chip sampling alone as determined in the field between Exide and DTSC, or where chip sampling techniques are inefficient or ineffective. Core samples will be taken in accordance with Sampling and Analysis Plan provided in Appendix A.

9.5 QUALITY CONTROL PROCEDURES

Quality control procedures including field duplicates, trip blanks, equipment blanks, matrix spike and matrix spike duplicates; chain of custody procedures; sample labeling, packaging and transportation; and documentation will be conducted as discussed in Section 14.0.

9.6 ANALYTICAL TEST METHODS

Samples collected from building interiors and secondary containment areas will be analyzed for metals using the methods provided in Table 10.1. Chip samples collected from concrete sumps will be analyzed for metals, VOCs, PAHs and dioxins/furans using the methods provided in Table 10.1. Four chip samples from each of the Reverb Furnace, Blast Furnace and Blast Furnace Feed Room floor areas will be analyzed for metals, VOCs, PAHs, and dioxins and furans using the methods provided in Table 10.1.

As previously noted in Section 3.2, the final Closure Performance Standards will need to be modified as determined by the clean-up levels developed during CA. Table 10.1 will likely need to be modified during the closure process as a result.

All sample analyses will be performed in accordance with the latest versions of 22 CCR, chapter 11, Appendices I, II, III, XI and EPA publication SW-846 entitled "Test Methods for Evaluating Solid Waste." Additional information regarding analytical methods is provided in Appendix A, Sampling and Analysis Plan. Upon completion of the analyses, the laboratory will complete a report and submit to the project engineer. The report will include the sample identification code, reporting limits, date sampled, date analyzed, analytical method used, and the analytical results.

9.7 EVALUATION OF RESULTS

Method detection limits and reporting limits are summarized in Appendix A.

9.7.1 Containment Areas and Sump

The cleanup level for concrete and asphalt containment areas (secondary containment areas and containment buildings walls and floors (unlined floors)) and concrete sumps (tanks) to remain in-place (as determined from concrete or asphalt chip or core samples) will be non-detect.

Waste Extraction Test (WET) for waste characterization will be performed when the concentration for a contaminant of concern (COC) in a solid, as determined through TTLC testing, is below the TTLC level (22 CCR 66261.24) but greater than 10 times (by rule of thumb) the STLC. If the WET result is greater than the STLC, the item/media sampled is considered hazardous, even if the TTLC result is less than the TTLC level.

If the TTLC result for waste characterization is above the TTLC level, then the item/media sampled is considered hazardous waste, even without the STLC result. If the TTLC result is less than 10 times the STLC level in 22 CCR 66261.24, then the item/media sampled is considered non-hazardous, even without the STLC result.

If sample analysis results for surfaces remaining in-place indicate concentrations less than the performance standards established in Section 3.2, decontamination will be determined to be adequate and the representative surface/unit adequately cleaned for the purposes of Closure.

If sample results exceed the performance standard, additional cleaning measures can be performed or Exide may designate the area represented by the failing result for deconstruction and removal during Phase 2 Closure. The cleaning technique will be dictated by the surface type, surface condition, and apparent effectiveness of previous cleaning efforts and professional judgment of the Resident Engineer. After re-cleaning, the sampling will be repeated in the areas of re-cleaning. If, after attempting to clean a containment area or sump three times, the sample concentrations are still above the performance standard, the surface represented by the sample will be removed and disposed at an authorized disposal facility as part of contingent (Phase 2) closure activities.

As previously noted in Section 3.2, remediation of contaminated material below hazardous-waste levels but above the Closure Performance Standards developed as clean-up levels during CA is anticipated to occur during closure to meet the performance goals for closure of the facility. Appendix A may need to be modified during the closure process as a result.

9.7.2 Metal Surfaces

The performance standard for steel building walls (both sides) and interior and exterior roof will be the method detection limit (MDL) for wipe samples. The cleanup levels for wipe samples for steel tanks and ancillary equipment are wipe sample results below the MDL identified for wipe samples. If wipe sample results are below the MDL, the metal will be considered absent of hazardous constituents and deemed clean. For painted surfaces, Exide may conduct a lead base paint analysis using an XRF or paint chip samples.

If wipe sample results are above the MDLs, Exide will have the choice of re-cleaning and re-testing using non-destructive testing or disposing. Debris not achieving closure performance standards, as described above, must be characterized and transported appropriately.

9.7.3 Concrete Walls

The cleanup level for concrete walls to remain in-place (as determined from chip or core samples samples) will be non-detect.

Waste Extraction Test (WET) for characterization will be performed when the concentration for a contaminant of concern (COC) in a solid, as determined through TTLC testing, is below the TTLC level (22 CCR 66261.24) but greater than 10 times (by rule of thumb) the STLC. If the WET result is greater than the STLC, the item/media sampled is considered hazardous, even if the TTLC result is less than the TTLC level.

If the TTLC result for characterization is above the TTLC level, then the item/media sampled is considered hazardous waste, even without the STLC result. If the TTLC result is less than 10 times the STLC level in 22 CCR 66261.24, then the item/media sampled is considered non-hazardous, even without the STLC result.

If sample analysis results for surfaces remaining in-place indicate concentrations less than the performance standards, decontamination will be determined to be adequate and the representative surface/unit adequately cleaned.

If sample results exceed the performance standard, additional cleaning measures can be performed. The cleaning technique will be dictated by the surface type, surface condition, and apparent effectiveness of previous cleaning efforts and professional judgment of the Resident Engineer. After re-cleaning, the sampling will be repeated in the areas of re-cleaning. If, after following this procedure three times, the sample concentrations are still above the performance standard, the surface represented by the sample will be removed and disposed at an authorized disposal facility as part of contingent (Phase 2) closure activities.

As previously noted in Section 3.2, remediation of contaminated material below hazardous-waste levels but above the Closure Performance Standards developed as clean-up levels during CA is anticipated to occur during closure to meet the performance goals for closure of the facility.

10.0 CONFIRMATION SOIL AND SOIL GAS SAMPLING PLAN

Confirmatory soil and soil gas sampling will be performed in Phase 1. The data collected will be used in the Corrective Action process.

10.1 GENERAL

To confirm that no releases of hazardous wastes or constituents have occurred through the floor system or Stormwater Surface Impoundment liner system, soil and soil gas samples will be conducted beneath and adjacent to hazardous waste management units during Phase 1 Closure. Confirmation sampling will be used to determine whether spills, leaks, overtopping, or other releases of hazardous wastes or constituents from waste management units have occurred. The horizontal and vertical extent of the investigation will characterize the extent of releases of hazardous waste or constituents that have occurred from a former IS unit. When evaluating impacts caused by former IS units, consideration regarding historic impacts associated with non-HWMUs will be required in many areas. Soils exceeding hazardous waste levels based on TTLC and STLC testing as discussed in Section 3.2, and not situated within areas known to be impacted by historic (pre-RCRA) operations requiring Corrective Action will be excavated, or removed, during Phase 2. Adequacy of remediation will be documented using confirmatory sampling. The extent of the Phase 2 Closure soil remediation is defined when the sample results indicate that the COCs are detected below the performance standards in Section 3.2. If soil performance standards are exceeded to depths greater than 5 feet (and are not the result of historic impacts), Exide may propose for DTSC review and approval alternate excavation depths, closure with hazardous waste-in-place, or an alternate closure technique appropriate for the conditions identified.

10.2 CONFIRMATION SAMPLING LOCATIONS AND DEPTHS

10.2.1 Unit and Containment Area Soil Sample Locations

During Phase 1 Closure, soil samples will be collected using hand augers, direct-push, roto-sonic or hollow stem auger soil sampling, as appropriate based on depth and accessibility, once every 1,000 sf of floor, or a minimum of five locations per containment area plus one additional soil boring for each additional IS unit contained therein (whichever is greater). Soil borings will be placed at the mid-points of all four sides of the secondary containment system, and at the center of the former IS unit. If several units occupy the same secondary containment system, additional boring locations will be situated directly below each tank, miscellaneous unit and sump within the containment system. A soil sample location will also be conducted below or immediately adjacent to the secondary containment sumps associated with the Container Storage Areas. Where possible, sampling locations will be biased towards areas of cracked pavement, if present. Prior to sampling, all liners/floors will be inspected for cracks, holes, staining, odors etc., to determine targeted sampling locations in addition to grid sampling. Proposed sample locations are provided on Figure 9.1. Sample locations shown on Figure 9.1 for the Reverb Feed Room are for chip sample locations. Soil sample locations have already been completed in accordance with the letter regarding Containment Building Supplemental Sampling dated November 20, 2014 and Supplemental Sampling Work Plan, Reverb Furnace Feed Room dated March 26, 2015.

Soil samples at boring locations other than those within the Surface Impoundment and stormwater system piping will be collected in one foot intervals to a depth of 7 feet below the bottom of the secondary containment floor. Samples collected from the 0 to 1 ft, 1 to 2 ft, 2 to 3 ft, and 4 to 5 ft intervals will be analyzed with remaining samples being archived. Sample depths may be adjusted based on specific site conditions.

See Appendix A (Sampling and Analysis Plan) for more information regarding soil sampling activities. Any additional sampling plans will be submitted for DTSC's approval if additional soil sampling is required.

10.2.2 Stormwater System Sampling and Testing

10.2.2.1 **Stormwater System Soil Samples**

Soil samples will be collected at locations where subsoils were visually impacted (staining or wet) by pipe leakage along the bottom of the excavation during removal of original stormwater system piping during the 2013/2014 upgrades. The locations of visually impacted subsoils caused by stormwater pipe leakage are identified in Appendix B as occurring at the following locations:

- Deterioration in the bottom of metal pipe at ED+0+10 (invert elevation 7 feet bgs) extended approximately three feet towards Structure D. Soil beneath the deteriorated pipe section was moist, but not wet, fill which indicated that leakage was not actively occurring.
- Deterioration in the bottom of the metal pipe at ED+0+50 to Structure D (approximately 20 feet long, invert elevation 5 feet bgs). Sporadic staining was observed. Soil beneath the pipe was moist, but not wet, fill which indicated that leakage was not actively occurring.
- Deterioration in the bottom of the metal pipe from MH-1 to NORTHCL-3 (approximately 50 feet long, invert elevation 27 inches bgs).
- Localized staining and odor beneath pipe with concrete encasement at HG+0+43 (invert elevation 8 feet bgs).

Sample locations are provided in Figure 10.1. Soil samples will be collected at each location from 0 to 1 ft, 1 to 2 ft and 2 to 3 ft, below the pipeline. Samples will be analyzed for pH, total metals and moisture content. Sample depths may be adjusted based on specific site conditions. If impacts from the stormwater system are identified at the 2 to 3 ft. depth, then additional sampling will be necessary at greater depth. The techniques and frequency of such sampling will be subject to DTSC approval, before implementation.

10.2.2.2 **Stormwater System Testing**

At the time of closure, the HDPE piping system will be pressure tested to document piping system integrity. The HDPE manholes will be hydrostatically tested to document manhole integrity. Test procedures are the same as those used during installation of the replacement stormwater system in 2013/2014.

Pipe Testing

Gravity flow sewer systems shall be tested for leakage by a low pressure air test. The test procedure shall be, in general, as recommended by the Bay Area Committee on Air Testing, Berkeley, California. The test procedure shall be as follows:

1. The inside of the pipe shall be thoroughly cleaned, removing all debris and mortar. The pipe shall be thoroughly flushed with water to clean and wet the pipe.
2. The pipe shall be plugged at the upper and lower manholes by the use of inflatable air-tight plugs, one of which shall be equipped with an air hose to the pipe interior.
3. The test equipment shall consist of a compressor with an air bleed valve, a throttling valve, and a sensitive air pressure test gage with a gage cock. This equipment shall be connected with the air hose connection to the pipe.

4. If the pipe is laid in groundwater, the elevation of groundwater level shall be determined and compensations will be made in the test pressures at the direction of the Resident Engineer.
5. Determine the test duration based on the table below (for sizes not listed, use next larger size):

Pipe Diameter (inches)	Test Period Duration (minutes)
8	4.0
10	5.0
12	6.0
16	7.0
18	8.5
24	11.5
30	14.0
36	17.0

6. Air shall be slowly added to the pipe until the pressure reaches 4.0 psi in excess of the groundwater head. After 5 minutes stabilization time, air shall be added as required. Plugs shall be checked for leaks. Pressure in the system should not exceed 5.0 psi.
7. When the pressure has stabilized and is at or above the starting test pressure of 3.5 psi, commence the test. Record the drop in pressure for the test period. The test may be discontinued when the prescribed test time has been completed, even though 1.0 psi drop has not occurred.
8. If the groundwater level at the time of testing is above the pipe invert, add 0.43 psi of air per foot of water above the invert to the test air pressure range of 2.5 psi to 3.5 psi stated above.
9. If the pressure drop exceeds 1.0 psi during the test period, the test will be considered to have failed.

Manhole Testing

Drainage structures (i.e., HDPE manholes) located along the pipeline shall be tested for leakage by a low pressure hydrostatic test. The test procedure shall be as follows:

1. The inside of the drainage structure shall be thoroughly cleaned of foreign material.
2. The drainage structure shall be plugged by the use of inflatable water-tight plugs at all pipe penetrations.
3. Fill structure with water to the bottom of the concrete lid.
4. Measure loss over a 4-hour period.
5. A loss of ¼" or more during the test period shall be considered a failure.

If the piping and manholes pass the testing, no sampling along the alignment of the pipe and manholes will be necessary. If the HDPE pipe fails the pressure testing or HDPE manholes fail hydrostatic testing, additional soil borings shall be conducted in the area of the test failure every 20 feet adjacent (within 18-inches) to the alignment of the pipe. Soil samples will be collected at depths corresponding to 0 to 1 ft., 1 to 2 ft., and 2 to 3 ft. below the invert of the pipe. Trench drain sections that cannot be pressure tested will be sampled using soil borings every 40 feet along the alignment of the trench drain pipe. Manholes failing testing will be sampled at four locations around the structure and samples collected at depths corresponding to 0 to 1 ft, 1 to 2 ft, and 2 to 3 ft below the invert of the deepest incoming pipe.

10.2.3 Surface Impoundment Soil Samples

At the Stormwater Surface Impoundment, the liner system will be removed at the sample location to allow access to underlying soils and liner samples will be collected as discussed in Section 7.4.2. Soil borings shall be collected at the locations shown on Figure 9.1. Bottom samples shall extend to 7 feet below the liner system of the surface impoundment. Soil samples at every 12 inches should be collected to a depth of 3 feet on the side-slopes of the

impoundment. Bottom samples from 0-1 ft, 1-2 ft, 2-3 ft and 4-5 ft will be analyzed and the remaining samples (3-4 ft, 5-6 ft and 6-7 ft (bottom samples only)) will be archived for later analysis, if needed.

Side slope samples will be collected at one foot increments to 3 feet below the liner surface and all three samples at each location analyzed. Archived samples may be submitted for analysis if appropriate for refining vertical delineation.

Damage to the primary and secondary liner system geomembrane layers will be repaired by patching the geosynthetic layers and inspected by a licensed Professional Engineer. Sample frequency is provided above. Analytes are provided in Section 10.5.

10.2.4 Former Unit Sampling

Sampling for closed Units 11, 26, 27, 28, 64 and 65 will be conducted as shown on Figure 9.1 and as indicated in Appendix A.

Concrete and soil sampling at other historic closed units is proposed as part of the RFI as discussed in Section 4.4.

10.2.5 Soil Gas Sample Locations

Soil gas sampling will be completed at each of the three Surface Impoundment sumps and at one boring beneath or adjacent to each former IS unit. Soil gas samples will be collected at approximately 5 feet and 15 feet below grade using temporary soil gas sampling probes.

10.3 SAMPLE COLLECTION

Sample collection is described in the Sampling and Analysis Plan provided in Appendix A. Sampling equipment will be decontaminated prior to use and between each location. Decontamination procedures are provided in the Sampling and Analysis Plan (Appendix A)

10.3.1 Soil Sample Collection

Discrete samples will be placed in a laboratory-supplied sample jar. Samples will not be homogenized. Soil samples collected for VOC analysis will be collected using a TerraCore sampler or similar DTSC-approved technique as described in the Sampling and Analysis Plan provided in Appendix A. A record of the sampling will be made by field personnel in a dedicated log book. Sample locations will be documented by measuring from existing features.

Direct-push soil borings completed to 20 feet bgs or less will be abandoned using granular bentonite. Bentonite will be placed by hand into the boring from grade and hydrated in place with potable water. The following day, the borings will be topped off should the cement within the borings settle overnight.

10.3.2 Soil Gas Sample Collection

Soil gas sampling will be performed at approximately 5 and 15 feet deep in one boring beneath each former IS hazardous waste management unit and at three locations beneath the Surface Impoundment, one at each Surface Impoundment sump. The deeper sample depth may vary based on field conditions encountered during drilling. Soil gas samples will be co-located with a soil sample selected for VOC analysis.

10.4 QUALITY CONTROL SAMPLES

Quality control procedures including field duplicates, trip blanks, equipment blanks, matrix spike and matrix spike duplicates; chain of custody procedures; sample labeling, packaging and transportation; and documentation will be conducted as discussed in the Sampling and Analysis Plan (Appendix A).

10.5 ANALYTICAL TEST METHODS

Each sample will be analyzed for the compounds indicated in Table 10.1. Sample concentrations will be reported on a dry-weight basis.

10.6 EVALUATION OF RESULTS

The cleanup level for soil up to five feet below a unit to remain in-place without restrictions will be CAM-17 total metals results below ten times STLC levels or CAM-17 total metals results below TTLC limits and WET results below STLC limits.

Waste Extraction Test (WET) will be performed when the concentration for a contaminant of concern (COC) in a solid, as determined through TTLC testing, is below the TTLC level (22 CCR 66261.24) but greater than 10 times (by rule of thumb) the STLC. If the WET result is greater than the STLC, the item/media sampled is considered hazardous, even if the TTLC result is less than the TTLC level.

If the TTLC result is above the TTLC level, then the item/media sampled is considered hazardous waste, even without the STLC result. If the TTLC result is less than 10 times the STLC level in 22 CCR 66261.24, then the item/media sampled is considered non-hazardous, even without the STLC result.

Although determinations regarding whether or not soils are hazardous do not require soil gas sampling, Exide has agreed to perform the soil gas sampling as part of the Phase 1 Closure sampling. The results of soil gas sampling, in conjunction with relevant soil sampling results will be reviewed to determine if volatile organic compounds (VOCs) have been released from any of the former IS units and if such a release has occurred, will allow comparison against screening levels to determine if vapors are present in the soils at concentrations that warrant further evaluation as part of the ongoing Corrective Action.

10.7 SOIL PARAMETERS

Site-specific soil parameters from a minimum of three soil samples will be collected from major lithologic types underlying the Facility. Physical properties of the Facility's soil (i.e., density, moisture, total porosity, organic carbon content, soil type, and effective permeability or hydraulic conductivity) will be obtained in the field or through testing of soil parameter samples by a geo-technical laboratory.

11.0 BUILDING DECONSTRUCTION

Building deconstruction will be conducted during Phase 1. Deconstruction of buildings is above and beyond typical RCRA closure requirements. Engineering controls are presented in Appendix G.

11.1 CONCRETE SURFACE REMOVAL

Following completion of gutting, initial cleaning of metal walls and ceiling to visibly clean surfaces, and cleaning and chip sampling concrete building walls (for characterization purposes and to determine whether or not a temporary enclosure is needed during deconstruction), the uppermost surface of the concrete floor in the Reverb Furnace Feed Room Containment Building (Unit 33) will be removed by milling, hydroblasting, or similar techniques. The depth of surface removal is expected to vary between 0.5 and 1.5 inches depending on overall condition of the floor. The resulting millings/sediment will be removed using a HEPA vacuum truck or HEPA vacuum truck equipped with a vacuum box, characterized and disposed off-site at an appropriate disposal facility consistent with the results of the characterization testing. After surface removal activities, the ceiling, walls and floor will be re-cleaned using a HEPA vacuum and/or pressure washing techniques to remove residual dust remaining from the surface removal activities. Confirmatory sampling will then be performed. Concrete surface removal is not required at other closure areas, but may be performed at the discretion of the Resident Engineer if visual observations and/or chip samples indicate that the concrete will likely fail to achieve performance standards. To the extent possible for the purposes of controlling fugitive dust, surface removal shall be performed while the air emission controls remain in operation and the building is under negative pressure. If the air emission controls are no longer operable or surface removal is performed outside of buildings with negative pressure, a temporary enclosure with negative pressure shall be erected over the work zone to control fugitive dust.

11.2 TANK FOUNDATIONS

Tank and miscellaneous unit foundations and pedestals which project above the floor elevation will be pressure washed to remove visible residual waste on the finished surface and then deconstructed to match surrounding floor, including tank foundations at the Wastewater Treatment Plant and Oxidation Tank Area. Concrete characterization chip samples will be collected and the foundation managed as discussed in Section 11.3.7.2. To the extent possible for the purposes of controlling fugitive dust, foundation deconstruction in the RMPS Building, Desulfurization Building, Containment Buildings, Baghouse Building and Smelter Building will be performed while the air controls remain in operation. Tank and miscellaneous units not within a structure maintained under negative pressure and with total lead concentrations above the California Human Health Screening Level (CHHSL) for industrial soil (320 mg/kg), as determined through chip sampling, or untested shall be covered by a temporary enclosure operated under negative pressure until completion of foundation and pedestal deconstruction. The chip samples will be used for characterization for disposal and to determine whether or not a temporary enclosure will be used and will not be used for determination of whether or not a closure performance standard has been met.

11.3 BUILDING DECONSTRUCTION

11.3.1 Preparation

Following completion of decontamination, gutting, and sampling, the Reverb Furnace Feed Room and Blast Furnace Feed Room Containment Buildings, RMPS Building, Smelter Building, Baghouse Building and Desulfurization Building will be deconstructed to up to 5 feet below surrounding grade dependent on sampling results generated during Phase 1 as part of closure activities. The buildings proposed for deconstruction are shown on Figure 11.1. All non-structural components and equipment will be removed and disposed or recycled off-site, and all interior decontamination shall be completed prior to the start of building deconstruction.

Prior to the start of deconstruction activity, an environmental sweep of all buildings will be performed to confirm that all wastes and/or regulated materials (such as asbestos, insulation, electrical fixtures containing PCBs or mercury, transformers, loose or chipping lead based paint and emission control equipment not required to maintain negative pressure on remaining structures) are removed. The inspection will also verify that all utilities associated with the buildings have been disconnected and deenergized. The deconstruction area will be demarcated to secure the work area and protect workers and other personnel onsite. Access to the work area will be restricted to Contractor personnel and other approved visitors and support staff.

Existing floor sumps will be used for water management during deconstruction. Precipitation and dust control water are expected to require management during deconstruction. Any floor sumps (including trenches, floor drains and lower levels) remaining after completion of Phase 2 Closure will have achieved the Closure Performance Standards or be approved by DTSC for closure with hazardous waste-in-place.

11.3.2 Deconstruction Engineering Survey

A Deconstruction Engineering Survey will be prepared by a Structural Engineer with demolition/deconstruction experience licensed in the State of California in accordance with CalOSHA provisions (8 CCR Subchapter 4, Construction Safety Orders, Article 31 – Demolition). The engineering survey shall be utilized to determine safe decontamination and deconstruction procedures and shall adequately assess the condition of framing, floors, walls and roofs. Project safety is solely the responsibility of the Contractor. Worker and public safety must be a paramount concern of the Contractor.

The Contractor will submit the Deconstruction Engineering Survey to Exide and the Resident Engineer for review. Following incorporation of Exide and Resident Engineer comments, the Deconstruction Engineering Survey will be submitted to DTSC and AQMD at least 30 calendar days prior to start of deconstruction. The Deconstruction Engineering Survey must be approved by DTSC in writing prior to implementation.

As it was built last, the Baghouse Building is structurally inter-connected with the Reverb Feed Room, RMPS Building and Smelter Building and is anticipated to be the first deconstructed of these four buildings.

11.3.3 Deskinning

De-skinning shall not be performed until interior decontamination is fully completed. Negative pressure will be maintained on the building while de-skinning (i.e., removing wall and roof panels). A temporary enclosure with negative pressure will be constructed on outside walls by securing plastic sheeting on scaffolding or supported by structural building elements. The temporary enclosure with negative pressure shall be adequately secured at ground level, along the roof line, at the ends and along adjacent panels to allow the windbreak to be sufficiently impermeable such that negative pressure can be maintained inside the building as wall panels are removed. The building skin will be removed panel by panel beginning with the walls and ending with the roof using the following methods:

- Spray panel to be removed with water to control dust expected at panel overlaps.
- Cut the fasteners and maintain panel in its original position.
- HEPA vacuum dust accumulations within panel overlaps and between panel and structural steel.
- While separating the panel, wipe the overlaps and face of structural members with a damp rag or pressure wash the overlap to remove dust accumulations.
- Remove the panel and lower to the ground in a controlled fashion.

Following wall skin removal, the roof skin will be removed panel by panel using the following methods:

- Within an approximately 10 ft by 10 ft by 10 ft mobile negative pressure tent on top of the roof, remove 50% of the roof panel screws while vacuuming with a

SCAQMD permitted HEPA vacuum. Seal holes with silicone as the screws are removed.

- Cover roof panels with 11 mil plastic sheeting and seal to the perimeter scaffolding and structures. Use rope or sand bags to hold the plastic sheeting in place as needed. This procedure will completely enclose the section of the roof to be removed with plastic sheeting.
- Use standoff supports with rounded ends to separate the plastic sheeting from roof panels without damaging the plastic sheeting. The standoff supports will be approximately 4 to 6 inches tall.
- Remove roof panels in small sections by cold cutting from inside the building while ensuring the 11-mil plastic sheeting is not damaged. Remove the cut section and lower to the ground in a controlled fashion. It is anticipated that the roof panels will be removed in a row along the peak of the roof, parallel to the girt line, and then downwards row by row towards the roof/wall interface.
- As roof panels are removed, remove remaining screws connecting the roof panel to the structural steel from above or below the roof.
- As panels are removed, allow plastic sheeting to lay on structural steel. Use rope or cables between structural girts and trusses to create a grid to support the plastic sheeting.

Panels will be sorted by material type, and containerized for off-site recycling or disposal. The negative pressure will be turn off and the temporary enclosure will be partially removed to leave a windbreak at the concrete walls proposed for deconstruction. Once the work is complete, the scaffolding and plastic will be cleaned using SCAQMD permitted HEPA-equipped vacuums to remove any dust prior to removal. The interior of the temporary enclosure/windbreak will be wiped down and sprayed with an encapsulant such as Fiberlock or similar before dismantling the temporary enclosure/windbreak or removing plastic sheeting.

Negative pressure equipment will be shut down.

Throughout these activities, water sprays, floor sweeping and vacuuming of dust accumulations with a HEPA vacuum will be performed.

The sequence of removing emission control equipment which penetrates the roof and the building walls will be determined using the Deconstruction Engineering Survey.

The windbreak will remain in-place until the building is completely de-skinned.

11.3.4 Structural Steel

Structural steel for the walls and roof will be removed to the top of concrete wall using cold cutting and conventional equipment.

The structural steel frames of the buildings will be systematically dismantled from the roof level down to the ground level in accordance with the sequence recommended by the Contractor's Structural Engineer. It is anticipated that steel frame deconstruction will be performed using large tracked excavators (operating weight greater than 50,000 lbs) equipped with rotating shear or grapple attachments to cut and remove structural members down to the concrete slab/foundation level.

11.3.5 Concrete

Hydraulic hammers will be used to break up concrete and masonry debris to surrounding grade.

11.3.6 Material Segregation

During deconstruction, materials will be placed on cleared sections of concrete slabs. The materials will be sorted using excavators, skid steer loaders (Bobcat), and manual labor and either direct loaded for shipment off-site or moved into one of the remaining structures with operating air emission controls (until deconstruction of the final structure) for sizing or

supplemental cleaning, if required. Torches will be used to cut and size metal debris. It is anticipated that materials will be sorted into three basic categories: concrete/masonry, scrap metals, construction and deconstruction debris (wood, plastics, etc.). These materials may be further segregated as needed based on recycler/disposal facility requirements (example: ferrous metals separated from non-ferrous metals).

11.3.7 Material Management

11.3.7.1 **Scrap Metal**

Structural steel will be recycled off-site. The Closure Cost Estimate assumes recycling at a facility within 15 miles of the facility. Transportation costs are included in the Closure Cost Estimate. No credit is assumed for the value of the scrap.

11.3.7.2 **Concrete**

Walls and equipment foundations intended for deconstruction will be visually clean prior to deconstruction. Walls and equipment foundations will be removed, sized as needed for transport and disposal, and disposed off-site. Wall and equipment foundation chip samples will be used for disposal characterization and to determine whether or not deconstruction should occur within an enclosure. Characterization sampling will be performed as required by the disposal facility. The materials will be stored in sealed, leak-proof containers unless located within a total enclosure.

Concrete walls (except for portions of the Reverb Feed Room) are assumed to be non-hazardous in the Closure Cost Estimate as all concrete pavement removed during the 2013/2014 Stormwater System Replacement project was characterized as non-hazardous. Characterization results from the Stormwater System Replacement project are provided in Appendix B.

12.0 DECONTAMINATION OF UNREGULATED AREAS

Based upon the potential for dust or residue to be present on ancillary equipment and structures, decontamination will be performed to minimize exposure and protect human health and environment. Non-regulated building roofs and site-wide paved areas that were not cleaned during the initial closure activities will be decontaminated. The non-regulated building roofs to be decontaminated are shown on Figure 12.1 and are as follows:

- BESS;
- Engineering;
- Product Storage;
- Chemical Storage;
- Employee Facilities;
- Water Softener;
- Garage;
- Machine Shop;
- Maintenance Storage;
- Blue Lead Warehouse;
- Scale House; and,
- Cooling Tower.

During Phase 1, the non-regulated areas will be decontaminated by HEPA vacuum and pressure wash, and the resulting rinsate collected for processing in the Wastewater Treatment Plant. All equipment used in the decontamination activity will be triple rinsed.

The Water Softener Building Sump, Caustic Tank Sump, and Railroad Sump will be cleaned concurrent with decontamination of unregulated areas by vacuuming with a HEPA vacuum and washing using a pressure washer.

Date: November 2015

13.0 GROUNDWATER SAMPLING

The contents of this section have been moved to Section 22.

The Sampling and Analysis Plan (SAP) included as Appendix A does not discuss satisfying clean-up levels that are anticipated to be included as part of Closure (i.e., clean closure or closure with land-use restrictions for an industrial-type scenario) and are not yet known. Exide will submit an additional SAP to DTSC to address this issue within 60 days of approval of the Closure Plan.

Date: November 2015

14.0 QUALITY CONTROL PROCEDURES

14.1 LABORATORY ANALYSIS

Analysis will be conducted at a laboratory certified by the California Environmental Laboratory Accreditation/Certification Program (ELAP).

The EPA analytical methods will be used for waste analysis as shown in Table 10.1.

14.1.1 Quality Control Samples

The use of control samples will maintain quality for all sampling. Field duplicates will be collected at a rate of 5% (or one duplicate for every 20 samples collected) of the samples collected per sampling event. Field duplicates will be collected, preserved, packaged, labeled and sealed in a manner identical to the other samples being collected. Duplicate samples will be used as a check for consistency in analytical procedures.

Field and laboratory quality control procedures are provided in the Sampling and Analysis Plan in Appendix A.

14.1.2 Decontamination of Sampling Equipment

All non-disposable field sampling equipment will be cleaned and decontaminated in accordance with the Sampling and Analysis Plan (Appendix A).

14.2 CHAIN-OF-CUSTODY PROCEDURES

Handling and custody transfer of samples will be completed in accordance with the protocol contained in the Sampling and Analysis Plan (Appendix A).

15.0 PARTIAL CLOSURE

Not used.

16.0 PHASE 2 - CONTINGENT CLOSURE PLAN

The contingent closure plan was prepared in the event there are unforeseen circumstances that arise during closure or additional activities are required to complete and certify the facility closure. These additional activities will be conducted during Phase 2 and may require the removal of hazardous soil beneath the concrete floor at the closure areas; installation of boundary markers where hazardous soils are left in-place; and development of a deed notice/land use covenant. The scope of Phase 2 will be determined using data generated during Phase 1 and may be influenced by data generated during the RFI and Corrective Action process. The scope of Phase 2 could range from the worst case presented in this section (excavation and capping) to a best case of no excavation with all Phase 1 samples meeting the performance standards. It is likely that the scope of Phase 2 will be a variety of activities with no excavation in some areas, excavation only in some areas, and capping in some areas.

16.1 PLANNING

The soil, soil gas and chip data generated during Phase 1 will be used to prepare a Phase 2 Contingent Closure Plan. The Phase 2 Contingent Closure Plan will identify the vertical and horizontal limits of removal, procedures for confirmatory sampling, erosion and sediment control measures, and Site restoration and stormwater management plan. The Phase 2 Contingent Closure Plan will include a conceptual site model that illustrates the physical, chemical and biological processes that control the transport, migration and potential impacts of contamination identified in soil, air, groundwater, surface water and sediments. The Phase 2 Contingent Closure Plan will be subject to DTSC review and approval.

Planning activities also include obtaining permits from state and local agencies (which may include an erosion and sediment control permit, and a stormwater discharge permit) as discussed in Section 3 and retaining a contractor to conduct the work.

16.2 PROPOSED EQUIPMENT

The following former IS units and equipment are proposed for use during Phase 2:

- Unit 1 – Central Container Storage Building;
- Unit 87 – West Yard Truck Wash;
- Unit 46 – Pump Sump;
- Unit 78 – Stormwater Surface Impoundment;
- Temporary WWTP;
- Soil stabilization equipment, if needed;
- Torit Baghouses;
- Temporary emission control equipment, if needed; and,
- Finished Lead Building.

The former IS units will have been cleaned during Phase 1 to remove accumulated sediment that has the potential test hazardous. The Torit Baghouses, located in the Finished Lead Building, are proposed to remain on-site and in operational condition after cleaning during Phase 1. The Finished Lead Building is expected to be an ideal location for treating excavated soil during Phase 2. The Torits will provide the ability to maintain negative pressure in the Finished Lead Building during material handling.

16.3 SOIL REMOVAL PROCEDURES

16.3.1 General

The location of former IS units is provided on Figure 2.2. The extent of contamination and required excavation at these units (if any) will be determined based on the results of closure soil sampling discussed in Section 10.0, and the relationship with the corrective measures alternative selected through the Corrective Action process. For the purposes of the contingent closure cost

estimate provided in Appendix I, floor removal, soil excavation and restoration is assumed to occur at 100% of the footprint of the following locations to the depth from the bottom of 0.8 ft thick (nominal) pavement and building concrete floor as noted below and as shown on Figure 16.2. Excavation will occur below both pavement and building floor slabs. The actual thickness of pavement and floor slabs is not known and is anticipated to be variable. 0.8 feet thick was selected as the nominal thickness for preparation of the Contingent Closure Cost Estimate provided in Appendix I.

- RMPS Building, including unloading dock, and oscillating pan feeder (Unit 70) (5 ft depth);
- RMPS Plastic Trailer Loading area (5 ft depth);
- Desulfurization Building/Secondary Containment Area (5 ft depth);
- Reverb Furnace Feed Room Containment Building (5 ft depth);
- Blast Furnace Feed Room Containment Building (5 ft depth);
- Oxidation Tank secondary containment area (5 ft depth);
- Mobile Equipment Wash station (Unit 35) (5 ft depth);
- Units 31 and 32 at the Baghouse Building (5 ft depth);
- Other current and former IS unit footprints and ancillary sumps at the Baghouse Building (5 ft depth), including Rotary Kiln enclosure;
- Furnace and kettle footprints at the Smelter Building (5 ft depth);
- Caustic Tank Sump (5 ft depth);
- West Yard Truck Wash (Unit 87) (5 ft depth);
- Container Storage Areas (Units 1, 2 and 3) (5 ft depth);
- Drop Out System (5 ft depth);
- Concrete Yard Area (Former WWTP) (5 ft depth);
- Wastewater Treatment Plant (5 ft depth);
- Railroad Sump (5 ft depth);
- Water Softener Sump (5 ft depth); and,
- Acid Collection Sump 3 (5 ft depth).

No excavation is assumed for the contingent closure cost estimate for the following:

- Surface Impoundment because this area has both historic and more recent impacts and will be addressed during Corrective Action.
- Trailer Staging Area (Unit 103) because this historic metals processing area will be addressed during Corrective Action.

16.3.2 Concrete Floor Removal and Management

If soil sampling conducted during Phase 1 closure activities (discussed in Section 10.0) indicates that soils are present which exceed the cleanup levels discussed in Section 3.2 and those impacts are not associated with historic operations, the concrete or asphalt floor and/or liner system above the hazardous soil will be removed using a concrete saw, jackhammer, front-end loader and/or hand tools as appropriate. Concrete removal and soil excavation will be performed in temporary enclosures using water spray to control dust.

The concrete or asphalt pavement and building floors will be removed during Phase 2 and, based on results of sampling and visual appearance, will be disposed off-site at an appropriate disposal facility. Concrete which does not have chip sample results meeting the performance standard will be visually clean and be characterized and disposed off-site.

Hazardous floors, pavement and building foundations being shipped for off-site disposal may be treated on-site prior to shipment or treated at the landfill. The Closure Cost Estimate in Appendix I assumes concrete floor removal and disposal will occur at 100% of the locations noted in Section 16.3.1.

16.3.3 Soil Removal and Management

After removing the pavement, the contaminated soil will be removed using a front-end loader, excavator or a dozer. Confirmation samples will be collected from the walls and floor of the excavation area; excavation areas will not be backfilled until confirmation sample results indicate the soils within the excavation meet applicable clean-up levels. Upon receipt of clean confirmation sample results, the excavation will be backfilled with clean fill and resurfaced with pavement.

The contingent closure Cost Estimate assumes excavation of soil to 5 feet depth from the bottom of an approximate 0.8 ft thick Portland cement and asphalt concrete pavement, as well as below concrete floor slabs at the locations noted in Section 16.3.1. Excavations are expected to occur after or during building demolition. In the event that excavations near structural building foundations are performed prior to building demolition, then options for excavation up to the foundation, including shoring or slot cutting, will be considered based on depth and soil conditions.

The remediated soil will be stabilized ex-situ on-site (as required based on characterization testing) prior to off-site disposal as non-hazardous waste or transported by hazardous waste manifest to a certified treatment, storage, and disposal facility for treatment prior to disposal. On-site treatment is anticipated to occur using soil stabilization equipment within the Finished Lead Building. For the purposes of preparing the Closure Cost Estimate, 100% of the soil is assumed to be disposed off-site as RCRA hazardous waste at a facility in Beatty, Nevada.

Dust control measures such as temporary enclosures and water will be used during floor removal and excavation activities. The temporary enclosure will remain in-place until the excavation is complete and/or any areas remaining over the performance standards are covered with plastic sheeting or geotextile fabric.

The City of Vernon requires removal or deconstruction of footings and similar obstructions up to 10 feet below grade to avoid conflicts for future land users, unless an alternate approach is approved. Based on the 90+ year operating history of the facility, most of which pre-dates the former IS units, it is expected that the most appropriate alternative for Corrective Action will involve restoration of the facility to clean-up levels and placing deed restrictions on the property. All existing foundations as well as any other similar obstructions within ten feet of existing or final grade, whichever is greater, shall be removed in accordance with City of Vernon requirements.

16.3.4 Removal of VOC-Contaminated Soils

VOC-contaminated soils are not expected during the Phase 2 Closure activities; however, measures will be taken to implement SCAQMD Rule 1166 procedures for soil excavation. VOC-contaminated soils register a concentration of 50 ppm or greater of VOCs as measured before suppression materials have been applied and at a distance of no more than three inches from the surface of the excavated soil with an organic vapor analyzed calibrated with hexane.

VOC readings will be taken by the Contractor every 15 minutes using the following procedures:

- Calibrate organic vapor analyzer with hexane;
- Place probe inlet at a distance of no more than 3 inches from the surface of the excavated soil;
- Slowly move probe across soil surface which observing the instrument reading;
- If increased meter reading is observed, continue to screen the excavated soil until maximum reading is obtained;
- Leave probe inlet at maximum reading location for approximately double the instrument response time; and,
- If maximum observed reading is greater than 50 ppm, record and report results.

All readings and instrument calibrations will be recorded.

If VOC-contaminated soil is detected, the following actions will be taken:

- Implement the VOC-contaminated Soil Mitigation Plan;
- Notify AQMD within 24 hrs of detection;
- Continue to monitor and record VOC readings; and,
- Maintain calibration records onsite.

If VOC-contaminated soil greater than 1,000 ppm is detected, the following actions will be taken:

- Spray soil with water or vapor suppressant; and,
- Place soil in sealed containers as soon as possible and within 15 minutes, or,
- Place soil in trucks, moisten with additional water and cover within 15 minutes and transport off-site as soon as possible.

General shipping procedures are provided in Section 3.13.

16.3.5 Abandoned Stormwater Piping Removal

Sections of stormwater piping which could not be removed during the 2013/2014 stormwater system replacement were abandoned in-place by cleaning using jetting methods and grouting in their entirety. All abandoned-in-place piping within ten feet of existing or final grade, whichever is lower, shall be removed as required by the City of Vernon requirements. The abandoned-in-place piping will be excavated to a depth of the pipe invert plus 6 inches. Sidewalls and bottom of excavation shall be demonstrated to achieve the closure performance standards in Section 3.2 using confirmatory sampling. The excavated material will be characterized and disposal/managed as appropriate.

The Closure Cost Estimate assumes excavation of all the abandoned stormwater piping in the North Yard. The excavation volume is 779 cy in the North Yard. The Closure Cost Estimate also assumes that original/abandoned stormwater piping in the South Yard will remain in-place and be capped as part of the South Yard Corrective Action activities.

As presented in the Stormwater Management System Removal completion report in Appendix B, the abandoned piping are:

- MH-1 to MH-2, beneath the Soda Ash Silo and east to MH-1 (MH-2MH-1+0+85 to MH-1)(approximately 180 feet);
- Inlet D-1 to MH-6 (approximately 90 feet);
- 12-inch diameter corrugated HDPE pipe from DC+0+30 to DC+1+13 (approximately 83 feet);
- 18-inch diameter HDPE pipe with invert 11 feet bgs, (ECHANNEL+0+23 to ECHANNEL+0+65) (approximately 42 feet);
- CL-8 to MH-6 beneath the Reverb Furnace Feed Room (approximately 77 feet); and,
- MH-7 to MH-6 beneath the RMPS Building, Reverb Furnace Feed Room, RMPS Loading Dock area and existing ramp (approximately 125 feet).

16.4 CONFIRMATORY SOIL SAMPLING

Confirmatory soil sampling will be conducted after soil remediation from 0 to 1 ft depth from the bottom of excavation in accordance with Section 10.0 to verify that all soil which exceeds the performance standards has been removed. Samples will be analyzed as discussed in Section 10.5.

16.5 RESTORATION

The void left after removal will be backfilled using imported clean fill, as recommended by the DTSC's Information Advisory, or imported clean crushed stone. Finished grades will be determined during development of the detailed Phase 2 design, but are expected to be designed to promote surface water drainage, minimize the volume of backfill material required and accommodate the selected Corrective Action alternative. Backfill material will be placed in compacted lifts and graded with appropriate construction equipment to surrounding grade. The uppermost 6-inch layer will be crushed stone.

16.6 SURFACE IMPOUNDMENT RESTORATION

Any soil and surface impoundment material that exceeds the Closure Performance Standards (i.e., clean-up levels established as part of CA), will be excavated and removed from the Surface Impoundment. Confirmatory soil sampling will be conducted after soil remediation from 0 to 1 ft depth from the bottom of excavation in accordance with Section 10.0 to verify that all soil which exceeds the Closure Performance Standards has been removed. Samples will be analyzed as discussed in Section 10.5. Backfilling will be performed as described above in Section 16.5. A Soil Management Plan (SMP) will be submitted to DTSC for review within 30 days of approval of the Closure Plan.

If impacts to soil-gas are detected above Closure Performance Standards for soil-gas, soil-vapor-extraction (SVE) may be implemented during the closure and/or CA process to restore soil-gas to risk-based levels. Groundwater beneath the Surface Impoundment is long-known to be contaminated; therefore, groundwater monitoring followed by remediation to Closure Performance Standards (e.g., drinking water MCLs) will be implemented as part of CA.

Article 6 groundwater monitoring is required for this unit. Exide will submit a Sampling and Analysis Plan for Article 6 groundwater monitoring for the surface impoundment within 30 days of approval of the Closure Plan.

In the event that soil above the performance standard remains in-place beneath the Stormwater Surface Impoundment, or that Exide cannot feasibly meet any of the conditions for clean closure or closure with restrictions as discussed in Section 3.2.1, 'Contingent Closure (Phase 2) Excavation Rationale', the Stormwater Surface Impoundment will be closed with a hazardous waste in-place designation. The liner systems will be removed and disposed off-site and the impoundment will be backfilled as appropriate based on future use of the area and the area where waste remains shall be capped. A discharge pipe will be designed and installed to allow gravity drainage from the Stormwater Surface Impoundment into the storm sewer system or adjacent stormwater drainage channel. If applicable, a National Pollutant Discharge Elimination System (NPDES) permit shall be obtained from the State Water Resources Control Board (SWRCB) before discharging stormwater from the facility.

If waste is left in-place, the impoundment will be re-lined to create a cap over the hazardous waste remaining in-place. The cap will consist of, from bottom to top, two feet of low permeability clay layer or geosynthetic clay liner, 60-mil HDPE geomembrane, single-sided geocomposite drainage layer, and 6 inches of reinforced concrete pavement or similar protective hardscape. The cap shall be in compliance with California Code of Regulations Section 66264.228 (e) through (r). The side-slopes will be graded for a shallower slope to allow for cap installation on the slopes. The cap design will be submitted to DTSC. For conservatism, the contingent closure cost estimate assumes that the Stormwater Surface Impoundment will be closed with hazardous waste in-place.

16.7 CONTINGENT POST-CLOSURE SUBMITTALS -

If Closure Performance Standards cannot be achieved, 22 CCR 66265.197, 66265.228 and 66265.1102 respectively state that the operator shall close the tank systems, surface impoundments and containment buildings and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (22 CCR 66265.310). If soil greater than the Closure Performance Standard remains in-place at the completion of Phase 2, a RCRA

cap design conforming to 22 CCR 66265.310 will be submitted for DTSC review and approval prior to installation.

The cap will be designed to:

- Prevent the downward entry of water into the closed unit for a period of at least 100 years.
- Function with minimum maintenance.
- Promote drainage and minimize erosion or abrasion of the final cover.
- Accommodate settling and subsidence so that the cover's integrity is maintained.
- Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.
- Accommodate lateral and vertical shear forces generated by the maximum credible earthquake so that the integrity of the cover is maintained.
- Preclude ponding of rainfall and surface run-on over the closed area.

Upon completion of RCRA cap installation, a post-closure permit application will be submitted for DTSC's review as required by 22 CCR 66264.310 or Exide will enter into an Enforceable Agreement covering both the former IS unit post-closure and the Corrective Action. The post-closure permit application or Enforceable Agreement will include the post-closure care as specified in California Code of Regulations, Section 66264.118 and Water Quality Monitoring and Response Programs for Permitted Facilities as specified in California Code of Regulations, Chapter 14, Article 6. The post-closure application/Enforceable Agreement design details will include surface water run-on and run-off controls.

The Post-Closure Permit Application will include a Post Closure Plan addressing the following requirements:

- Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion or other events;

- Maintain and monitor the leachate collection and removal system which also serves as a leak detection system;

- Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of Article 6 of Chapter 14 of Division 4.5 of Title 22 of the California Code of Regulations;

- Prevent run-on and run-off from eroding or otherwise damaging the final cover; and,

- Maintain and monitor the leak detection system in accordance with 22 CCR 66264.221(c)(2)(D) and (c)(3) and 66264.226(d) and comply with all other applicable leak detection system requirements of Chapter 14 of Division 4.5 of Title 22 of the California Code of Regulations.

The application will include:

(1) A description of the planned monitoring activities and the frequencies at which the monitoring will be performed to comply with Articles 6, 11, 12, 13, and 14 of this chapter during the post-closure care period.

(2) A detailed description of the maintenance and monitoring activities, and frequencies at which they will be performed, to ensure:

a. The integrity of the cap and final cover and other containment systems in accordance with the requirements of Articles 11, 12, 13 and 14 of this chapter; and,

b. The function of the monitoring equipment in accordance with the requirements of Articles 6, 11, 12, 13, and 14 of this chapter.

(3) A description of how the performance standards and post-closure requirements for any remaining hazardous soil will be met is included to comply with Articles 6, 11, 12, 14 and 16 of Chapter 14 of the California Code of Regulations, Title 22, during the post-closure care period.

(4) A detailed description of steps needed to protect and maintain the waste management area surveyed benchmarks.

(5) A detailed description of the steps necessary to collect, transport, and discharge collected stormwater.

(6) The name, address, and phone number of the person or office to contact concerning the hazardous waste management unit and facility during post-closure care.

(7) all information necessary to enable the Department to prepare an Initial Study for the post-closure plan, which meets the requirements of Title 14,California Code of Regulations section 15063, unless the Department has determined that the post-closure plan is exempt from the requirements of the California Environmental Quality Act pursuant to Title 14, CCR section 15061.

(8) Water Quality Monitoring and Response Program.

16.8 EQUIPMENT DECONTAMINATION

Equipment used during Phase 2 will be decontaminated. The resulting rinsate will be treated in the temporary WWTP prior to being discharged to the local sewer. The resulting lead residue will be drummed and transported, as a reclaimable material, to a secondary lead recycler for reclamation or sent for off-site stabilization and disposal.

16.9 CONTAMINATED SOIL BOUNDARY MARKERS

If hazardous soil remains in-place at the completion of Phase 2, bollards or posts shall consist of at least 42-inch high above surrounding grade, 4-inch diameter, schedule 40 steel pipes, painted traffic yellow, and set or anchored in concrete foundations or similar boundary markers will be installed to mark the boundaries of each area of soil remaining in-place. Post locations will be documented by a licensed surveyor. Boundary marker details will be determined based on the corrective action scope and will be submitted to DTSC for approval. The Closure Cost Estimate in Appendix I assumes seventeen areas with hazardous waste remaining in-place, and eight markers per area for a total of 136 fence posts.

No later than the submission of the certification of closure of the former IS units, the facility will submit to the local zoning authority and DTSC, a survey indicating the location and dimensions of any hazardous soil with respect to permanently surveyed vertical and horizontal benchmarks as specified under 22 CCR 66264.116. The survey will be prepared and certified by a Professional Land Surveyor licensed in California. The survey filed with the local zoning authority will contain a statement or notation, prominently displayed, which states the facility's obligation to restrict disturbance of the hazardous soil.

16.10 DEED NOTICE

No later than 60 days after certification of closure, if any hazardous waste remains, the facility will submit to DTSC and to the authority with jurisdiction over local land use, a record of the type, location, and quantity of hazardous waste remaining at the facility as required under 22 CCR 66264.119. The facility will record, in accordance with state law, a notation on the deed / land use covenant to the facility property that will notify any potential purchaser that: 1) the land was used to manage hazardous wastes; 2) its use is restricted under closure and post-closure regulatory requirements; and 3) the survey and record of the type, location, and quantity of hazardous waste within the area of the facility has been filed with the local zoning authority and DTSC.

The facility will submit to DTSC a signed certification stating that the location has been recorded. The submittal will include a copy of the document(s) in which the notification has been placed. If at any time the facility wishes to remove underlying contamination or surrounding soil, the facility will request a modification to the post-closure plan. The facility will demonstrate that the removal of the hazardous soil will satisfy 22 CCR 66264.117(d) which states:

> "Post-closure use of property on or in which hazardous waste remains after partial or final closure will never be allowed to disturb the integrity of the final cover, liners or any other component(s) of the containment system, or the function of the facility's monitoring systems, unless the Department of Toxic Substances Control (DTSC) find that the disturbance: 1) is necessary to the proposed use of the property, and 2) is necessary to reduce a threat to human health or the environment."

If DTSC grants a permit modification or otherwise grants approval to conduct such a removal activity, and removal activities are completed to the satisfaction of DTSC, the facility may request the approval of either the removal of the notation on the deed of the facility property or include an additional notation on the deed indicating the removal of the hazardous soil.

16.11 CAPPING

The Closure Cost Estimate in Appendix I assumes that caps will be installed in the North Yard and South Yard where hazardous waste is closed in-place as shown in Figure 16.1. The North Yard cap area is assumed to be 1.26 acres, and the South Yard cap area is assumed to be 3.11 acres. The assumed cap is an asphaltic concrete section that will consist of, from top to bottom:

- 4 inch thick asphalt concrete wearing course;
- 6 inch thick aggregate base;
- 12 inch thick structural soil fill;

- Single-sided geocomposite drainage layer;
- 60-mil HDPE geomembrane;
- Geosynthetic Clay Liner;
- Geocomposite drainage layer, and
- 4 inch thick sand layer.

The cap design is for Contingent Closure assumptions only and is presented for use in developing the Closure Cost Estimate. If it is determined that an IS unit will be closed with waste in-place, a cap design will be submitted to DTSC for approval prior to installation.

17.0 CLOSURE IMPLEMENTATION SCHEDULE

17.1 GENERAL

Though subject to modification based on the regulatory process, the overall closure schedule is provided in Microsoft Project format in Appendix F. The overall closure schedule is summarized as follows:

DTSC Notice to Start Closure	January 2016
Phase 1 Implementation	March 2016 – December 2021
Phase 2 Planning	July 2021 – January 2022
Phase 2 Implementation	February 2022 – January 2024
Post-Closure	February 2024 – February 2053

The schedule for Phase 2 Planning and Implementation may also depend on the schedule for Soil Corrective Measures implementation in the Corrective Action process.

17.2 DURATION

22 CCR 66265.113(a) requires that all hazardous wastes be treated, removed from the unit or facility, or disposed on-site within 90 days of approval of the Closure Plan, unless DTSC approves a longer period. Exide, with DTSC approval, has shown good faith by initiating removal of hazardous wastes prior to approval of the Closure Plan to the extent possible without affecting units that remain in operation (e.g. WWTP, Mud Tanks and West Yard Truck Wash). Removal of the remaining hazardous wastes will require longer than 90 days from approval of the Closure Plan as the units storing the remaining hazardous wastes must remain in operation to

implement the Closure Plan (e.g. WWTP, Mud Tanks and West Yard Truck Wash) or inventory removal at the particular unit is sequenced to occur at a time after the 90 day period due to the magnitude of the Closure. The Closure Plan addresses 95 former IS units, each of which must be addressed individually to remove waste inventory and decontaminate the unit. The sequential nature of the facility process also requires that units and areas be handled in sequence, with only select areas being able to be addressed concurrently. The schedule provided in Appendix F indicates that Phase 1 will require over 5 years to complete using standard work hours. It would not be physically possible to complete inventory removal and unit decontamination activities in a manner which does not pose a threat to human health or the environment within 90 days from approval of the Closure Plan due to the magnitude of the project, the number of units which must be addressed and necessity to conduct every step in a deliberate and controlled manner to help prevent exceedances of ambient air standards at the property boundary. Work is required to be performed in accordance with DTSC, AQMD and City of Vernon requirements, including significant measures for engineering controls. Exide will continue to take all steps to comply with all applicable interim status requirements. The longer period will not pose a threat to human health and the environment and will allow Exide the time needed to complete inventory removal and unit decontamination in an environmentally responsible manner.

22 CCR 66265.113(b) requires that closure activities be completed within 180 days after approval of the Closure Plan, unless DTSC approves a longer period. The Closure Plan addresses 95 former IS units, each of which must be addressed individually to remove waste inventory and decontaminate the unit. The sequential nature of the facility process also requires that units and areas be handed in sequence, with only select areas being able to be addressed concurrently. In addition, the structural inter-relationship of the buildings proposed for deconstruction requires that the buildings be removed in sequence, with only select buildings being able to be addressed concurrently. The schedule provided in Appendix F indicates that Phase 1 (inventory removal, unit removal, confirmatory sampling, building decontamination and deconstruction) will require over 5 years to complete using standard work hours, with Phase 2 (possible excavation and capping in-place) requiring additional time. It would not be physically possible to complete the Phase 1 and 2 activities in a manner which does not pose a threat to

human health or the environment within 180 days from approval of the Closure Plan due to the magnitude of the project. Work is required to be performed in accordance with DTSC, AQMD and City of Vernon requirements, including significant measures for engineering controls. Exide will continue to take all steps to prevent threats to human health and the environment from the unclosed, but not operating units or facilities, including compliance with all applicable interim status requirements. The longer period will not pose a threat to human health and the environment and will allow Exide the time needed to complete inventory removal and unit decontamination in an environmentally responsible manner.

17.3 PHASE 1 SCHEDULE

Appendix F presents the proposed Phase 1 closure schedule in Microsoft Project format and includes a schedule for final closure, the total time required to close the facility, and the time required for intervening closure activities, which allow tracking of the progress of closure. The Phase 1 closure schedule was prepared during a constructability review and includes the extensive efforts necessary to construct and remove windbreaks (i.e., scaffolding with plastic sheeting) at each building proposed for deconstruction as required by Appendix G. The sequence of building deconstruction is tentative and will be finalized in consultation with the Contractor during Phase 1 following receipt of the Deconstruction Engineering Survey. The sequence for deconstruction proposed in the Phase 1 schedule is based on the knowledge that the Baghouse Building is structurally dependent on the RMPS Building, Reverb Feed Room (Upper Feed Room), and Smelter Building, and must be deconstructed first.

The Phase 1 schedule in Attachment F provides work tasks conducted by the Contractor, existing and temporary WWTP operation, and sampling crews. The schedule does not include laboratory analysis of samples.

The schedule does not anticipate work stoppages or production rate reductions in response to agency requirements.

The actual schedule for Phase 1 activities will be provided in the Contractor's Implementation Plan. The Contractor's Implementation Plan is a submittal prepared by the selected Contractor that details his proposed means and methods and incorporates the requirements of the Closure Plan and results of the Deconstruction Engineering Survey.

17.4 PHASE 2 SCHEDULE

The schedule for Phase 2 is dependent on the scope for Phase 2, which is currently unknown as the scope for Phase 2 will be determined using data developed in Phase 1 and may be performed concurrently with and the site-wide Corrective Action. As shown in the overall schedule provided in Appendix F, Phase 2 is assumed to require approximately two years. The schedule for Phase 2 will be refined once with scope for Phase 2 is known.

17.5 SCHEDULE MODIFICATIONS

A Closure Plan revision in accordance with California Code of Regulations, §66270.42 will be submitted to DTSC if a longer period for closure as specified in California Code of Regulations, §66265.111 and §66265.113 is required.

17.6 WORK HOURS

Work hours will generally be Monday to Friday, 8 hours per day; however, the Contractor may propose an increased number of days per week or hours per day for approval by Exide and the DTSC. Exact work hours may be modified as work progresses to accommodate weather delays and subcontractor schedules.

The Phase 1 schedule contained in this version of the Closure Plan is presented with two assumptions for work hours:

- Standard Schedule - 8 hours per day, 5 days per week (March 2016 to December 2021); and,
- Compressed Schedule - Two 8 hour shifts per day, 5 days per week (March 2016 to January 2019).

Date: November 2015

18.0 HEALTH AND SAFETY

Health and safety procedures will be conducted by the Contractor in accordance with a Health and Safety Plan prepared by the Contractor conducting closure activities. The Health and Safety Plan will meet, at a minimum, the requirements of OSHA Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 and CalOSHA regulations 8 CCR Sub-Chapter 4, Construction Safety Orders and 8 CCR Sub-Chapter 7, General Industry Safety Orders.

The Health and Safety Plan will include, at a minimum:

- A safety and health risk or hazard analysis for each site task and operation found in the work plan;
- Employee training assignments to assure compliance with subsection (e) of 8 CCR 5192;
- Personal protective equipment (PPE) to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program in subsection (g)(5) of 8 CCR 5192;
-
- Medical surveillance requirements in accordance with the program in subsection (f) of 8 CCR 5192;
- 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;
- Actions and action levels for air monitor equipment readings;
- Site work zones;
- Site control measures in accordance with the site control program required in subsection (d) of 8 CCR 5192;

- Decontamination procedures in accordance with subsection (k) of 8 CCR 5192;
- An emergency response plan meeting the requirements of subsection (I) of 8 CCR 5192 for safe and effective responses to emergencies, including the necessary PPE and other equipment;
- Confined space entry procedures; and,
- A spill containment program meeting the requirements of subsection 0) of 8 CCR 5192.

The Contractor and all subcontractors shall have 40-hour OSHA HAZWOPER training with current 8-hour refresher. All contractors and subcontractors which conduct work at the facility are also required to comply with the General Environmental, Health & Safety Rules and Regulations for Contractors and Subcontractors Working at Exide Technologies dated November 30, 2011 provided in Appendix W, and are required to conduct and provide a current respirator fit test and medical monitoring (including doctor's clearance to wear a respirator, initial blood lead testing less than 60 days old, and repeat blood lead testing every 30 days) for all on-site personnel.

It is anticipated that closure will be conducted in Level D protection unless workers are required to enter tanks or miscellaneous units at which time the level of protection may be upgraded to Level C if conditions require additional protection. Protocol for selecting and monitoring the protectiveness of the levels will be identified in the Contractor's HASP.

The closure cost estimate assumes that Level C PPE is not required for:

- Transportation and disposal;
- Filter press processing;
- Wastewater treatment operation;
- Laboratory analysis;

- Calculation of risk standards;
- Loading of tanks and debris;
- Building deconstruction (after decontamination);
- Placement of clean fill and stone.

Unit costs in the Closure Cost Estimate associated with work conducted in Level C have been adjusted to account for a 45% reduction in productivity (i.e., an increase in cost per unit). Production rates in the Closure Cost Estimate associated with work conducted in Level C have been adjusted to account for a 45% reduction in productivity (i.e., a decrease in units performed per hour). Unit cost and production rate adjustments for Level C PPE use are provided in the cost estimate assumptions.

The aforementioned Closure Cost Estimate assumptions for PPE shall not be assumed to dictate the PPE requirements for particular work tasks. The Contractor is expected to select the appropriate PPE for a particular task and monitor the protectiveness of the levels as identified in the Contractor's HASP.

Date: November 2015

19.0 SITE SECURITY

The entire manufacturing area of the facility (all property west of Indiana Street) is enclosed by an 8-foot high chain link fence topped by a 1-foot high, three-strand barbed wire barrier. There are five gates, which will be kept locked except when opened for occasional deliveries or when staffed by a guard.

Signs legible from a distance of 25 feet reading "Danger – Unauthorized Personnel Keep Out" and "Peligro – Personas Que No Son Autorizadas No Entren" in 1-7/8 inch block letters are located in the following locations within the facility:

- Battery unloading dock – south side of the RMPS Building;
- Battery unloading dock – west side of the RMPS Building;
- West personnel door of the RMPS Building;
- North truck doors of the RMPS Building;
- Central Container Storage Building – north side;
- Central Container Storage Building – west side; and,
- West Container Storage Building #2 – east side.

Additionally, signs as required by OSHA's lead standard are posted in appropriate areas of the facility. Miscellaneous safety signs advising the proper use of personal protection equipment and general safety awareness are also posted throughout the facility. All signs are in English and Spanish.

Security measures will be implemented during Phase 1 and Phase 2 and until the closure certification is accepted by DTSC.

Date: November 2015

20.0 CLOSURE REPORTING REQUIREMENTS

20.1 CONTRACTOR DAILY REPORT

During implementation of Phase 1 and Phase 2, the Contractor will prepare a daily report which includes the following:

- Project name and date;
- Weather conditions;
- Description of activities performed during the day;
- Description of any tests, sampling or monitoring performed, including data from previous testing;
- Details of any discrepancies or field conflicts which occurred during the day;
- Descriptions and quantities of materials, labor or equipment mobilized to or demobilized from the facility, including delivery and disposal tickets;
- Description and quantities of materials, labor or equipment used during the day;
- Actual engine runtime hours and fuel usage for all portable equipment engines. The information will be used by Exide for RECLAIM reporting. Mobile equipment does not need to be included;
- Summary of disposal or recycling shipments, including a table providing manifest number, truck number, transporter, contents, weight, destination facility, and other pertinent information.
- Health and safety summary, including personal air monitoring;
- Description of inspections performed during the day including attendees;
- Submittals made during the day or decisions made on previous submittals;
- List of Site visitors and organizations represented;
- Site security activities;
- Any other significant activities; and,
- Contractor representative's signature.

The report will be submitted electronically to Exide, the Resident Engineer, and DTSC by the end of the following day.

20.2 CLOSURE CERTIFICATION REPORT REQUIREMENTS

The Resident Engineer, an independent registered Professional Engineer certified in California, will certify closure of the former IS units. The engineer will review the closure plan prior to the closure activities and will periodically observe closure procedures to verify that the activities were conducted in accordance with the approved Closure Plan.

When each phase of closure (Phase 1 and Phase 2) is completed, the facility will submit certification by both the facility and an independent, qualified engineer registered in the State of California within 60 days of the completion of final closure, to DTSC, SCAQMD and the City of Vernon. This certification will state that the facility has been closed in accordance with the approved closure plan. The Closure Certification Report will include, at a minimum, the following:

- Certification by an independent registered professional engineer;
- Supervisory personnel description;
- Summary of Closure Activities, including confirmatory sampling and decontamination procedures;
- Summary of quantities disposed and recycled;
- Field Engineer Observation Reports;
- Sampling Data and Analyses (i.e., sampling locations, soil boring logs, chain of custody, analytical results, etc.);
- Discussion of Analytical Results;
- Manifests showing disposition of waste inventory;
- Manifests showing disposition of hazardous materials;
- Bill of ladings showing disposition and quantity of recycled materials;

- Detailed description of areas where hazardous waste is left in-place;
- Modifications and Amendments to Closure Plan (if applicable); and,
- Photographs.

Supporting documentation will be maintained at the facility until financial assurance requirements have been released. The following documents will be maintained at the facility and will be made available to DTSC upon request:

- Approved Closure Plan;
- A copy of the independent qualified professional engineer's field observation reports;
- Laboratory results of samples analyzed;
- Quality assurance/quality control demonstrations;
- Manifests showing disposition of waste inventory;
- Miscellaneous documentation (e.g., photographs); and,
- Closure Certification Report.

The City of Vernon will provide a concurrence letter for the closure after DTSC has finalized and issued its closure letter and Exide has met all of the closure requirements for the City of Vernon, including the submission of all demolition diversion/recycling reports, closure documents, and review fees (City of Vernon fees include $976 for annual review of documents, and $268 for final closure letter).

Date: November 2015

21.0 POST-CLOSURE PLAN

This post-closure plan is submitted as required under 22 CCR 66264.118. A copy of the approved plan and all revisions to the plan will be kept at the facility until post-closure is completed in accordance with 22 CCR 66264.118(c).

The post-closure plan identifies the activities that will be carried out after closure of the former IS units and the frequencies of these activities.

The post-closure period is 30 years. Post-closure applies when remediation to residential standards (unrestricted clean closure) has not been achieved. If unrestricted clean closure is achieved, no post-closure activities are necessary.

If contaminated soils are left in-place, contingent post-closure activities identified in Section 22.0 would be implemented.

The facility contact during the post-closure period will be determined during closure activities. DTSC will be notified of the contact information.

21.1 CONTENTS OF THE POST-CLOSURE PLAN

The post-closure plan includes:

(1) A description of the planned monitoring activities and the frequencies at which the monitoring will be performed.
(2) A detailed description of the maintenance and monitoring activities.
(3) A detailed description of the steps necessary to collect, transport, and discharge collected stormwater.

(4) The name, address, and phone number of the person or office to contact concerning the hazardous waste management unit and facility during post-closure care.

21.2 AMENDMENT OF POST-CLOSURE PLAN

The facility will prepare and submit a written notification to the DTSC amending this post-closure plan at any time during the monitoring life of the facility (that period during which the facility is annually monitored and maintained) as specified under 22 CCR 66264.118(d). The plan will be amended whenever unexpected events require a modification of the approved post-closure plan. The post-closure plan will also be amended whenever there are changes in the as-built or closed condition of the site, whether by unexpected or by intentional design, which change site operations.

21.3 POST-CLOSURE ACTIVITIES

The post-closure plan will be implemented after Phase 1 closure is complete if remediation to residential standards (unrestricted clean closure) has not been achieved. Monthly inspections of facility surfaces and perimeter fencing will be conducted during the post-closure period. As post-closure does not anticipate that hazardous soils will remain in-place, maintenance and repair of paved or gravel surfaces or buildings will not be required in areas which are remediated to unrestricted levels, except such maintenance as may be required to facilitate access to areas where contamination is left in place, or as may be required by City of Vernon ordinances and codes. Perimeter chain link fencing, fence posts and gates will be inspected, and repaired, if necessary, to maintain site security. Routine maintenance and repairs will be conducted on the facility security system to assure that unauthorized personnel are not permitted to enter the facility during the post-closure care period. The Closure Cost Estimate in Appendix I also includes replacement of the entire length of fencing once during the 30-year period due to the fence reaching the end of its useful life.

During the post-closure care period, facility surface run-off will be discharged. The final stormwater drainage configuration will be determined based on the selected Corrective Action remedy and required Phase 2 soil excavations. Design details will be provided as part of the Corrective Measures Implementation Design or Phase 2 Contingent Closure Plan as appropriate based on timing. Post-closure activities will include monthly inspection of the structural integrity of the Stormwater Surface Impoundment.

21.4 CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

No later than 60 days after completion of the established post-closure care period for the facility, the facility will submit to DTSC, by registered mail, a certification that post-closure care of the facility was performed in accordance with the specifications in the approved post-closure plan as specified under 22CCR 66264.120. The certification will be signed by the facility and an independent, qualified Professional Engineer, registered in California. Documentation supporting the certification will be furnished to DTSC upon request until DTSC releases the facility from the financial assurance requirements for post-closure care.

22.0 CONTINGENT POST-CLOSURE FOR SURFACE IMPOUNDMENT AND UNITS CLOSED WITH HAZARDOUS WASTE IN PLACE

The contingent post-closure plan will be initiated only if Phase 2 activities are found to require a final cover as engineering controls to achieve Closure Performance Standards protective of human health and the environment. For this document, the contingent post-closure monitoring is assumed to include detection and compliance groundwater monitoring; soil pore-water sampling, soil gas sampling, and surface water sampling; maintenance of the waste management area boundary markers; and notification on the property deed / land use covenant for partial and final closure. A final cover, pursuant to California Code of Regulations, §66264.310(a) will be required if units are closed with hazardous waste in place. Contingent post-closure activities begin after completion of Phase 2. When it is determined necessary to close with waste in place, a RCRA cap to cover the area of contaminated soil to be left in place will be designed and submitted for DTSC review and approval. The cap design standards are provided in Section 16.7.

If upon closure of the hazardous waste facility, hazardous waste remains on-site, no construction, filling, grading, or excavating will occur without the issuance of a variance by DTSC. Post-closure care for each hazardous waste management unit subject to the requirements of 22 CCR 66264.117 through 66264.120 will begin after completion of closure of the unit and continue for 30 years. DTSC will, after permit modifications, shorten the post-closure care period if all units have been cleaned or if the facility can demonstrate to the satisfaction of the DTSC that a reduced period is sufficient to protect human health and environment.

Under the post-closure, the following maintenance and monitoring activities will be conducted:

a) Maintain the integrity and effectiveness of the final cover and make repairs, if necessary;
b) Maintain and monitor groundwater monitoring system and comply with all other applicable requirements of California Code of Regulation, Chapter 14, Article 6; and,

c) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

A Post-closure Permit Application containing more detailed information about the aforementioned monitoring and maintenance activities will be submitted to DTSC review and approval. Application requirements are provided in Section 16.7.

22.1 BOUNDARY MARKER MAINTENANCE

During the contingent post-closure care period, maintenance will be conducted on the markers installed during the Phase 2 contingent closure activities discussed in Section 16.9. Any damaged markers will be replaced as needed. If necessary, the locations will be resurveyed and the location remarked. The Closure Cost Estimate assumes two markers will be replaced each year.

22.2 DEED NOTICE

In finalizing the closure activities, a registered attorney will prepare a Notation on Property Deed/Land Use Covenant for both partial and final closure and waste records. The Notation and waste records will be filed with the local zoning authority and a duplicate copy submitted to DTSC.

Post-closure use of the property in which soil and soil-vapor contaminated above the Closure Performance Standards or hazardous waste remains after partial or final closure will never disturb the structural integrity of the surface pavement, any component of the containment system, or function of the monitoring system unless DTSC finds the disturbance is necessary to the proposed use of the property and will not increase the potential hazard or is necessary to reduce the threat to human health and environment.

22.3 MONITORING

This section describes monitoring to be conducted at units with hazardous waste closed-in-place during contingent closure. The scope of sampling described herein is assumed and based on a hypothetical Contingent Closure and Contingent Post Closure. Actual requirements for monitoring will be defined in a Water Quality Monitoring and Response Program developed by Exide and submitted with the post-closure permit application.

22.3.1 Groundwater Monitoring

22.3.1.1 **Hydrogeologic Conditions**

As discussed in Section 2.3.4, three water bearing zones are identified at the Site. The uppermost hydrogeologic unit beneath the facility is the Bellflower Aquiclude, which extends from surface to depths in excess of 90 feet. The Bellflower Aquiclude is a unit of silts and sandy clays commonly containing zones of perched groundwater. The Exposition Aquifer underlies the Bellflower Aquiclude and is reported to extend to a depth of about 175 feet in the area.

Groundwater in the lower-perched zone beneath the east side of the facility appears to have a groundwater high trending east-west with groundwater flow to the north at a gradient of 0.016 feet per foot (ft/ft) and south at a gradient of 0.05 ft/ft. Groundwater flow beneath the West Yard is to the east-northeast with a hydraulic gradient of approximately 0.03 ft/ft; however, this gradient is difficult to calculate because MW-9R was dry. Groundwater flow in the regional Exposition Aquifer is typically to the south-southwest. Groundwater flow direction and gradient in the upper perched zone is not yet known.

Groundwater investigation at the facility is ongoing as part of the RCRA Facility Investigation.

22.3.1.2 **Groundwater Sampling (Hypothetical)**

If soil at or above the Closure Performance Standards remains after Phase 2, Exide will submit a post-closure permit application which will include the Water Quality Monitoring and Response Program for post-closure units to DTSC for review and approval.

The Water Quality Monitoring and Response Program will be prepared according to the post-closure care requirements for tanks and/or surface impoundment and Article 6 of California Code of Regulations, Chapter 14.

For the purposes of the contingent post-closure cost estimate, quarterly groundwater monitoring is assumed to be required for the assumed cap area provided in Figure 16.1. Future groundwater monitoring may also be required as part of the final Corrective Action, although those costs are not included here. The contingent post-closure cost estimate assumes monitoring at 14 existing wells (SI-1 through SI-5, MW-5, MW-7R, MW-10R, MW-11R, MW-12, MW-13, MW-14, MW-15 and MW-17). Appendix X contains the Quarterly Groundwater Sampling and Analysis Plan for quarterly and annual monitoring of these wells. Monitoring at wells associated with the RFI is not included in the cost estimate.

For the Surface Impoundment, the assumed quarterly analysis includes total and dissolved Title 22 metals, VOCs, sulfate, turbidity, and pH. Background monitoring to establish background values will be performed as specified in Chapter 14, Article 6. Quarterly sampling for at least one year of the full list of Appendix IX constituents will be performed at each of the monitoring wells identified as background. The only background well that has been identified thus far is SI-1. Additional background wells and downgradient monitoring points may be required as more data is gathered from the RFI, or for post-closure groundwater monitoring of any additional former units closed with waste in place.

Following the completion of at least four successive quarters of background data collection at the Surface Impoundment, Exide anticipates that annual analysis of Appendix IX constituents will be performed at each of the wells. Annual analysis will include Appendix IX constituents of the following groups: Title 22 metals, (total and dissolved), inorganics, organochlorine and organophosphorous pesticides, PCBs, chlorinated herbicides, VOCs (including 1,4-dioxane), dioxins and furans, SVOCs, Sulfate, Turbidity, and pH. Inorganics include alkalinity as $CaCO_3$, chloride, nitrate-N, phenols, sulfate, sulfide, total organic carbon (TOC), and total cyanide. All inorganics, except total cyanide and TOC, will be included as part of the quarterly monitoring program.

The assumed contingent post-closure scenario also includes quarterly well inspections and annual repairs.

22.3.1.3 **Cleanup Levels for Groundwater**

Water Quality Protection Standards for groundwater will apply for those former IS units failing to achieve the Closure Performance Standards. Such areas will be determined by the Phase 1 and ongoing RFI sampling results and proposed in the Phase 2 excavation plan. Areas closed with waste-in-place will be subject to a post-closure permit and will require several water quality monitoring plans (as listed in Chapter 15, Article 6).

The Corrective Measures Study, completed as part of the Corrective Action process, will present cleanup standards and feasible alternatives available to cleanup groundwater. DTSC will select a remedy and cleanup standards from the Corrective Measures to present for public comment. Groundwater cleanup will be addressed outside of the Closure Plan.

22.3.2 Soil Pore-Water Sampling (Hypothetical)

If closure with a hazardous waste-in-place designation (i.e., Closure Performance Standards are not achieved) occurs at the Surface Impoundment, pore-water sampling may be required as part of the Water Quality Monitoring and Response Program described in Section 22.3. For cost estimating purposes, the contingent closure scenario assumes soil pore water samples will be collected quarterly concurrent with groundwater sampling at three proposed lysimeters to be installed at the surface impoundment: two down-gradient and one background. The length of time needed to collect the pore water in the lysimeter depends on the amount of sample needed, the soil type, and soil moisture content. Sampling times can vary from less than 1 hour in wet soil to more than 1 day in drier soil. The maximum attempted pore water collection time will be 24 hours. Standard Operating Procedures for lysimeter installation and sampling are provided in the Sampling and Analysis Plan provided in Appendix A.

If other former IS units are closed with waste-in-place that is attributable to the unit and are not situated within areas subject to Corrective Action, soil pore-water sampling using lysimeters located based on the geography of the unit (e.g. a single lysimeter may be used to represent multiple units located in the same secondary containment area). Samples are assumed to be collected quarterly concurrent with groundwater sampling.

It is assumed that pore water sample quarterly analysis will include dissolved Title 22 metals, VOCs, sulfate, turbidity, and pH. We have also assumed that pore water annual analysis will include Appendix IX constituents of the following chemical groups: Title 22 metals (total and dissolved), inorganics, organochlorine and organophosphorous pesticides, PCBs, chlorinated herbicides, VOCs (including 1,4-dioxane), dioxins and furans, SVOCs, Sulfate, Turbidity, and pH. Inorganics include alkalinity as CaCO3, chloride, nitrate-N, phenols, sulfate, sulfide, total organic carbon (TOC), and total cyanide. All inorganics, except total cyanide and TOC, will be included as part of the quarterly monitoring program. If pore water sampling attempts determine that unsaturated soils beneath a former IS unit closed with waste-in-place are too dry to produce pore water or pore water sample results are consistently below Water Quality Protection

Standards for groundwater, Exide may propose, for DTSC approval, a reduction in the parameter list or sampling frequency, or cessation of pore water sampling.

22.3.3 Soil Gas Sampling - Hypothetical

22.3.3.1 **Sampling**

For Contingent Post Closure cost estimating purposes we have assumed that soil gas sampling will be conducted quarterly at one boring adjacent to each unit or group of units within the same secondary containment area closed with a hazardous waste-in-place designation due to VOCs above the closure performance standards, including the surface impoundment. Soil gas samples will be collected at approximately 5 feet and 15 feet below grade using permanent soil gas sampling probes. Sampling will be conducted in accordance with the Sampling and Analysis Plan (Appendix A). Soil gas samples will be analyzed for VOCs using Method TO15 and 8260B. If soil gas sample results are below Industrial Soil Gas CHHSLs for Buildings Constructed with Engineered Fill for four consecutive quarters, Exide may propose, for DTSC approval, a reduction in sampling frequency or cessation of sampling.

22.3.3.2 **Cleanup Levels for VOCs in Soil Gas**

Cleanup levels for VOCs in soil gas will be determined after investigation of soil and groundwater is complete as part of Corrective Action. A Corrective Measures Study will be prepared after investigation is complete that presents feasible alternatives to cleanup contaminated soil. DTSC will select a draft remedy and cleanup standards from the Corrective Measures Study to present for public comment.

22.3.4 Surface Water Sampling - Hypothetical

For Contingent Post Closure cost estimating purposes we have assumed that one surface water sample will be collected quarterly at the discharge point for the drainage area of the units which

are closed with hazardous waste-in-place. We have assumed that the surface water quarterly analysis will include dissolved Title 22 metals, VOCs, sulfate, turbidity, and pH. We have also assumed that surface water annual analysis will include Appendix IX consituents of the following chemical groups: Title 22 metals (total and dissolved), inorganics, organochlorine and organophosphorous pesticides, PCBs, chlorinated herbicides, VOCs (including 1,4-dioxane), dioxins and furans, SVOCs, Sulfate, Turbidity, and pH. Inorganics include alkalinity as CaCO3, chloride, nitrate-N, phenols, sulfate, sulfide, total organic carbon (TOC), and total cyanide. All inorganics, except total cyanide and TOC, will be included as part of the quarterly monitoring program. If surface water sample results are consistently below Water Quality Protection Standards for surface water, Exide may propose, for DTSC approval, a reduction in the parameter list or sampling frequency, or cessation of pore water sampling.

22.4 CAP MAINTENANCE - HYPOTHETICAL

Annual cap maintenance at units with hazardous waste closed in-place includes quarterly spraying to eliminate weeds. The asphalt surface of the cap will be seal coated once every four years. The Closure Cost Estimate provided in Appendix I assumes that 1/30 of the cap will be replaced each year, which is equivalent to replacement of the full cap area once in the 30 year post-closure period. The replacement cap section will be the same as the cap section used for original installation.

Date: November 2015

23.0 CLOSURE AND POST-CLOSURE COST ESTIMATE

The estimated cost of closure as required under 22 CCR 66264.142 is summarized as follows:

• Closure Cost	$12,926,967.66
• Contingent Closure Cost	$18,113,546.47
• Post-Closure Cost	$686,592.85
• Contingent Post-Closure Cost	$6,933,194.02
Total	$38,660,300.97

Documentation of how these costs were determined is presented Appendix I. The hazardous waste management units for the facility are presented on Figure 2.2, while the solid waste management units for the facility are presented on Figures 23.1 through 23.5. Cost estimates were calculated using unit costs provided by DTSC, MEANS cost data guide, current facility costs and experience at similar sites. A DTSC Oversight fee of 10 percent, a quality assurance fee of 10 percent and Contractor overhead and profit of 10 percent were added to the closure and contingent closure subtotals. In addition, a contingency of 20 percent was added to the closure, contingent closure, post-closure and contingent post-closure subtotals.

The closure cost estimate assumes that:

- Exide removed select waste materials prior to the start of closure.
- Wastewater Treatment Plant and Desulfurization system are inoperable.
- Concrete pavement and soil excavation during Phase 2 will occur in areas as noted in Section 16.0.

These assumptions are detailed further in Appendix I and were discussed with DTSC and deemed reasonable for actual closure. Because the Closure Cost Estimate was prepared assuming worst case conditions, the assumptions in the Closure Cost Estimate may not match the actual current conditions presented in the Closure Plan. This scenario was used as a basis for the cost estimate, in order to ensure that closure funds are available in the event that Exide could not conduct the closure activities.

24.0 FINANCIAL RESPONSIBILITY

24.1 FINANCIAL ASSURANCE

Exide and DTSC have agreed that financial assurance relative to closure and post closure of the facility shall be provided in the approximate amount of $38,660,000. The financial assurance shall be comprised of:

- The existing hazardous waste financial guarantee bond in the amount of $11,158,854 (as of August 2014) which consists of $7,995,909.50 for closure and $3,162,949.50 for post closure.
- A closure/post-closure trust fund (Closure/Post Closure Financial Assurance Trust Fund) created in favor of DTSC to be funded in the aggregate amount of $27,500,000, which consists of $23,044,303.50 for closure and $4,455,696.50 for post-closure. Deposits will be made pursuant to Stipulation and Order HWCA No. 2014-6489 between DTSC and Exide.

Financial assurance documentation is provided in Appendix J.

24.2 PERIOD OF COVERAGE AND RELEASE FROM FINANCIAL ASSURANCE REQUIREMENTS

Within 60 days after receiving certifications from Exide and an independent professional engineer, registered in California, that closure has been accomplished in accordance with the approved closure plan. DTSC shall no longer require that Exide maintain financial assurance for closure of the Vernon facility.

24.3 LIABILITY REQUIREMENTS

Exide has established financial assurance for bodily injury and property damage to third parties caused by sudden and non-sudden accidental occurrences arising from operations of the facility through a certificate of insurance. This documentation is provided in Appendix J.

The mechanism selected by Exide for this purpose is a certificate of insurance established in accordance with 22 CCR 66264.147. Exide has established liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence, with an annual aggregate of at least $2 million, exclusive of legal defense costs. The facility will continuously provide liability coverage as required until certifications of closure as specified in 22 CCR 66264.115.

Date: November 2015

25.0 AMENDMENT OF THE CLOSURE PLAN

As with any major construction project, it is anticipated that minor variations to the Closure Plan will be required as field activities occur and unforeseen situations arise. Minor variations may include administrative changes to the plan, submission of additional implementation detail, and field variations for implementation methods and materials which meet the general goal and scope of the Closure Plan. These variations will be submitted to DTSC for approval prior to implementation. DTSC will determine if the changes/variations are significant enough to require public review and comment is required. AQMD and the City of Vernon will be included in the approval process if needed depending on the nature of the variation. The variations will be submitted to DTSC verbally in the field or via letter without resubmitting the complete Closure Plan.

While not anticipated, major variations to the Closure Plan will be submitted to DTSC as a permit modification, as specified in California Code of Regulations, §66264.70.

Date: November 2015

26.0 REFERENCE DOCUMENTS

The following documents will be used for reference during closure:

- ASTM D1452-09, Standard Practice for Soil Exploration and Sampling by Auger Borings
- ASTM D4547-09, Standard Guide for Sampling Waste and Soils for Volatile Organic Compounds
- ASTM D6418-09, Standard Practice for Using the Disposable En Core Sampler for Sampling and Storing Soil for Volatile Organic Analysis
- ASTM D5633-04(2008), Standard Practice for Sampling with a Scoop
- ASTM D6151-08, Standard Practice for Using Hollow-Stem Augers for Geotechnical Exploration and Soil Sampling
- ASTM D6282-98(2005), Standard Guide for Direct Push Soil Sampling for Environmental Site Characterizations
- DTSC/CalEPA (2004), Guidance Document for the Implementation of USEPA Method 5035: Methodologies for Collection, Preservation, Storage, and Preparation of Soils to be Analyzed for Volatile Organic Compounds