

**Demolition Work Plan for  
Asarco-Encycle Facility  
Corpus Christi, Texas  
Case No. 05-21304**

*Prepared for:*

**Chapter 7 Trustee**

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## **1.0 Introduction**

Energy Renewal Partners, LLC (Energy Renewal), Specialized Industrial Services (SIS), and Camacho Recycling (together “The Project Team”) have developed this Work Plan (Plan) for asbestos abatement, waste removal, and demolition services as a part of site closure and reclamation components at the ASARCO – Encycle Facility located in Corpus Christi, Texas (Site). These services were designed and will be implemented in a manner to address residual Site contaminants including, but may not be limited to, friable and non-friable asbestos, industrial sludge, acid residue, and metals that are listed as hazardous substances under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The facility is a former hydrometallurgical complex, originally operated by the American Smelting and Refining Company (ASARCO). ASARCO operated the facility as a zinc smelter from 1942 through 1985. Encycle Texas Inc (Encycle) subsequently operated the facility as a metals recycling unit until operations ceased in 2003. The Site is adjacent to the south side of the Corpus Christi Ship Channel which is a dredged industrial ship channel that discharges into Corpus Christi Bay. To the south of the Site is the Dona Park residential neighborhood while industrial refining plants flank the Site to the east, and a commercial grain elevator is located to the west.

### **1.1 Project Overview**

The project requires asbestos abatement, waste removal, and demolition of numerous buildings and associated aboveground piping and ancillary equipment. As identified in the contract documents and drawings, the Site is comprised of 52 above grade buildings, a 315-foot smoke stack, a water tower, approximately 11 metal silos, cooling towers, numerous aboveground storage tanks, and additional ancillary piping, conduit and equipment. The primary work areas and a description of work activities for each of the areas are provided in Section 2.0.

## 2.0 Project Work Plan

This Plan describes the procedures and protocols for demolition activities associated with the Site including, but not limited to, the general work activities described in the following sections. The Project Team will provide equipment, materials, and sufficient labor force to complete asbestos abatement, waste removal, and demolition activities as defined in Exhibit A – Scope of Work. Work activities include the following general project components:

- Asbestos Abatement – The asbestos abatement activities will include the removal, transport, and disposal of asbestos containing material (ACM) in the buildings and structures to be demolished. This work item also includes development of an asbestos abatement project design and preparation of the Texas Department of State Health Services Asbestos Notification Form. Asbestos abatement activities will be conducted in accordance with applicable federal, state and local regulations.
- Hazardous Waste Removal and Unit Decontamination – This work task will include decontamination of remaining waste management units which have not already been cleaned and closed by the Texas Commission on Environmental Quality (TCEQ). Decontamination procedures include existing waste removal, cleaning, and triple rinse of the units. Verification rinse water samples will be collected from each unit by the Trustee’s designated representative. Following receipt of the rinse water sample analytical results, cleaning of each unit will continue if necessary until the rinse water sample results show the decontamination rinse water limits have been met.. The Project Team will manage, transport, and dispose of recovered waste in accordance with the appropriate waste classification as well as collect, remove, transport, and dispose of characteristic hazardous waste present within the buildings and structures to be demolished. Prior to off-site disposal, the building construction debris, equipment, and components will be separated from the residual hazardous waste.

Building and Structure Demolition – The Project Team will demolish buildings and structures as well as ancillary components as described in the Scope of Work excluding fire water system piping and exterior pad-mounted transformers. The limits of demolition are defined as at grade level concrete and the exterior of most of the walls and bases of pits and sumps. Construction debris, with the exception of recyclable materials, will be disposed of at an authorized commercial landfill as Class II Industrial waste.

### 3.0 Project Setup

Project setup will include conducting a pre-construction meeting and preparation of project plans and permits.

#### 3.1 Pre-Construction Meeting

The project team will hold a pre-construction meeting via teleconference and/or in person to discuss the following:

- Introduction of project team field representatives and their respective roles;
- Discussion of demolition schedule;
- Relation and coordination of subcontractors;
- Distribution of contract documents;
- Clarification of specification questions;
- Field communication plan;
- Procedures for maintaining record documents;
- Use of project premises and materials, and;
- Submission and processing of monthly application for payment forms and associated requirements.

Meeting notes will be documented and issued to the attending parties.

#### 3.2 Project Plans and Permits

The project team will develop and submit for review the following plans and permits within 90 days of notice to proceed from the Trustee:

- Final Demolition Work Plan – Updates and comments will be incorporated into this Plan as necessary.
- Health and Safety Plan (HASP) - A comprehensive Site-specific HASP will be prepared and enforced for the duration of the demolition activities. Health and safety is of the utmost importance to the Project Team and therefore the Project Team will take every precaution appropriate in accordance with the HASP to ensure safe conditions during demolition activities. Due to the nature of the work, various critical potential risks will require consideration and definition in the HASP. The HASP will include a summary of principal hazards, Site-specific and activity-specific training to be provided, and methods used in the field to protect workers and equipment. The HASP will also include requisite figures and graphics necessary to provide an understanding of the hazards and the methods used to mitigate and protect against such

hazards. Some of the principal elements to be addressed as modules in the HASP will include the following, among others:

- Asbestos Abatement Operations;
  - Smoke Stack Demolition Operations;
  - Proposed Communications System;
  - Requisite Employee Training;
  - Chemical Hazards;
  - Site Traffic,
  - Emergency Evacuation;
  - Accident Investigation;
  - Visitor Requirements and Orientation; and,
  - Personal Protective Equipment (PPE).
- Stormwater Pollution Prevention Plan (SWP3) and Notice of Intent (NOI) – A SWP3 will be developed to address and define the location and type of best management practices (BMP's) in construction areas as well as management of dust suppression waters generated during demolition activities. A NOI will be prepared for Storm Water Discharge associated with demolition activities under an applicable TPDES General Permit to the Texas Commission of Environmental Quality (TCEQ).
  - Traffic Control Plan - A Traffic Control Plan will be prepared to establish protocols, signage and patterns to be implemented during construction to ensure for the safe flow of traffic through and/or around project work areas.
  - Quality Assurance/Quality Control (QA/QC) Plan - A QA/QC plan will be developed to identify Site controls/authority, general procedures such as document/data control, and activity-specific controls and verification procedures
  - Asbestos Demolition Notification Form – Asbestos Demolition Notification Form will be prepared and submitted to the Texas Department of State Health Services as well as the Public Health Region 11 local inspector. The form will be post-marked not less than 10-work days prior to commencement of ACM removal activities and/or structural demolition. A copy of the notification form will be provided to the Trustee prior to initiation of asbestos abatement activities.
  - Asbestos Abatement Project Design - An asbestos abatement project design for the ACM for interior and exterior portions of the buildings and structures to be demolished will be prepared and

provided to the Trustee prior to initiation of abatement activities. The design will include, but not be limited to, the evaluation and selection of appropriate friable and non-friable ACM removal methods; PPE to be utilized by personnel conducting asbestos abatement; and ACM waste transport and disposal procedures.

- Material Safety Data Sheets (MSDSs) – MSDSs will be provided to the Trustees for products that will be used at the Site.
- Demolition Engineering Plan –A demolition engineering plan will be developed detailing the procedures and steps associated with demolition of each specific structure to be demolished.
- Dust Control Plan – A dust control plan will be developed with specific monitoring, record keeping, abatement, and stop work protocols.
- Hazard Communication Plan – A hazard communication plan will be developed that establishes communication requirements for work activities at the site that may involve hazardous materials, asbestos containing material (ACM), structurally unstable structures, demolition, and areas not to be disturbed among other daily activities at the site.

## **4.0 Project Kick-Off and Site Preparation**

Once the project setup activities are underway, mobilization to the Site will be performed. The activities performed as part of these preparatory efforts will include, at a minimum, the following:

- Prepare and equip Site lay down areas;
- On-Site project kick-off meeting;
- Utility locating and verification;
- Environmental stabilization;
- Engineering Survey;
- Wind monitoring, and;
- Project Tarping.

A summary of the key activities performed as part of these efforts is provided in the following sections.

### **4.1 Prepare and Equip Site Lay Down Area(s)**

Upon arrival at the Site, the project team will establish lay down areas, material storage areas, and the primary decontamination area for use as needed throughout the project. An office trailer will be used to maintain project plans/specifications, and daily field documentation. Copies of all project plans and permits will be kept at the site including, but not limited to, the HASP, SWP3, Traffic Control Plan, Demolition Plans, and MSDS.

### **4.2 On-Site Project Kick-Off Meeting**

An initial on-Site project coordination meeting with the project team and the Trustee(s) will be held to fully inform personnel of project protocols, health and safety requirements and chain of command. Topics of discussion will include, but are not limited to:

- Introduction of field representatives (including subcontractors) and their respective roles;
- Discussion of demolition schedule;
- Coordination of subcontractors, as applicable;
- Clarification of specification questions;
- Use of project premises, and;
- Requirements for PPE, emergency response, and health and safety requirements.

### **4.3 Utility Location and Disconnection**

Electric, gas, water, and other service lines will be verified to be shut off, capped, or otherwise controlled, at or outside the building before demolition work is started. In each case, the utility company which is involved with the task at hand will be notified in advance, and its approval or services, if necessary, will be obtained.

### **4.4 Environmental Stabilization**

Prior to commencement of demolition activities, environmental controls such as silt fence and straw bales will be installed surrounding the work area to prevent uncontrolled migration of sediment, in accordance with the SWP3. These features will thus be placed to consider surface topography along an alignment that has been identified within the demolition area.

The project team will install, and while on Site, maintain sedimentation control devices as necessary to prevent the movement of sediment from the construction site to off site areas or into the surface water collection system via surface runoff or underground drainage systems. Field personnel will make a visual inspection of all erosion and sedimentation control devices at a minimum once per day and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to off Site areas, personnel will promptly install additional devices as needed. Sediment controls in need of maintenance will be repaired.

The project staff will also provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by demolition operations. Dust control will be implemented as needed to prevent excessive fugitive dust emissions from project related activities.

### **4.5 Engineering Survey**

The Trustee completed an Engineering Survey to determine structural stability of specified buildings. Prior to initiating demolition operations, an engineering survey will be conducted on the structures to determine the condition of the framing, floors, and walls, and possibility of unplanned collapses of any portion of the structure(s) by the demolition team. Any adjacent structure where employees may be exposed will also be similarly checked. A log of each survey will be maintained at the office trailer. The results of the survey will be discussed with site personnel and unsafe structures and buildings will be marked and closed with a physical barrier (e.g. plastic construction fence).

### **4.6 Wind Monitoring**

An aviation wind sock and wind meter will be installed prior to commencement of abatement and demolition activities. Wind direction and speed will be monitored by the Project Team utilizing the aviation wind sock and a wind meter as identified in Addendum 1. The wind direction and wind speed will be recorded by the Site Safety Officer or other designated project personnel at the start of each day and at 4-hour (or less) intervals during active asbestos abatement, hazardous waste removal, and building demolition activities. If the wind speed (with a northerly component) exceeds 15 miles per hour averaged over 1-minute, then asbestos abatement, hazardous waste removal, and building demolition activities which have the potential to create dust will cease.

#### **4.7 Project Tarping**

The Project Team will install 10-foot high heavy duty black polyethylene mesh tarps on the southern side of buildings undergoing active asbestos abatement, hazardous waste removal, or demolition. The tarps will be positioned east-west and will extend 20 feet beyond each end of the building (east to west) as close to the building as possible without impeding work activities. Tarps will be removed and re-positioned once activities for that building have ceased.

## 5.0 Demolition Plan Implementation

Demolition implementation will be based primarily on access to work areas, duration of tasks, coordination with other Site-specific tasks, the trustee allotted completion period of 30-months, and the project team developed schedule. The following sections describe the overall project structure as well as details for major demolition tasks.

### 5.1 Project Structure

This section briefly discusses the project structure as it relates to the project team, weekly correspondence in the form of progress meetings, and health and safety.

#### 5.1.1 Project Team

The project will be staffed with an experienced management team as summarized below. The management, subcontractors, and project staff members will have the requisite training and skill set necessary to complete the construction activities in accordance the plans and specifications. Management personnel committed to the project are summarized below.

Project Directors, Brent Fleming and Ed Ramirez- Oversees overall project activities and financial management. Acts as liaison with the Trustees as needed. The Project Director ensures that the provisions of the Site-specific HASP are enforced for the duration of the project and the necessary resources and materials are committed to the project.

Project Manager (on-site), Robert Resuriz – Manages project logistics, coordinates directly with the project waste manager, superintendent, and QA/QC officer on weekly activities and project schedule. Reviews project plans, submittals, and procurement activities. Coordinates with subcontractors and vendors and acts as primary liaison. The Project Manager will also enforce provisions in the Site-specific HASP.

Site Safety Officer (on-site), Mike Bazan - Serves as the general Site competent person responsible for accident prevention in accordance with 29 CFR 1926.20. The competent person is responsible for, and authorized to act to ensure that personnel are not working under conditions that are unsanitary, hazardous, or dangerous to their health or safety. The competent person's accident prevention responsibilities include:

1. Frequent and regular inspections of the jobsite,
2. Enforcement of the Site-specific HASP;
3. Inspections of materials on Site,
4. Review of demolition plans; and;
5. Inspection of equipment on Site.

Specialized Demolition Operations Manager , Craig Illuasky – Responsible for instructing crews associated with specialized operations including stack demolition and salvage operation. The Specialized

Demolition Operations Manager monitors demolition progress, completion of daily activities, coordinates and plans with the Project Manager, and reports any change of conditions. Specialized Demolition Operations Manager will also direct subcontractor activities and enforce provisions in the Site specific HASP.

Regulatory/Waste Manager, Mike Lindstrom – Coordinates with subcontractors and vendors. Generates requests for information on technical issues and works to present possible solutions. Regulatory/Waste Manager will be responsible for implementation of waste management protocols and will establish, implement, and monitor the quality assurance program. Works closely with Project Manager and supervisors to plan, schedule, and implement waste management and handling related activities.

EPA-accredited Asbestos Project Manager, Julian Camacho - Responsible for instructing crews on daily tasks, implementing tasks in accordance with applicable regulations, monitoring asbestos abatement progress, completing daily activities, coordination and planning with the project manager, and reporting changing conditions. The EPA-accredited Asbestos Project Manager will also direct subcontractor activities and enforce provisions in the Site-specific HASP.

### **5.1.2 Weekly Demolition Progress Update**

The project team will prepare a weekly demolition status update for submittal to the Trustee. Topics of discussion will include, but are not limited to:

- Review and approve minutes of previous meeting;
- Review work progress since last meeting;
- Note field observations, problems and decisions;
- Identify problems which impede planned progress and the planned solution;
- Review and update demolition schedule;
- Develop corrective measures and procedures to regain planned schedule, if required;
- Review work scheduled for next work period;
- Review submittal schedules, expedite as required to maintain schedule, and;
- Review and revise/approve the Contractor's application for payment.

### **5.1.3 Health and Safety**

Project personnel will attend a general site-specific safety orientation before commencement of the work. Orientation training for new or additional project staff will be conducted before the employee may begin Site work.

All project personnel will be trained on the hazards and precautions applicable to their work when initially assigned to a new area and when processes, hazards, or controls change. The contents of initial training will include, at a minimum:

- Comprehensive training on hazards and precautions specific to the employee's work;
- A discussion of employee rights and responsibilities under OSHA and other applicable regulations;
- An explanation of who to contact with questions or concerns;
- A review of the corporate Health and Safety Manual, and;
- A review of the Site-specific HASP, Hazard Communication Plan, Evacuation Plan, and other project plans.

Project personnel and subcontractors will attend a tail-gate safety meeting on-site each day. The daily safety meeting will be conducted to review daily demolition activities and associated hazard information. The daily safety meeting will address any previous or potential safety hazards associated with the anticipated day's work. These joint meetings offer the opportunity to coordinate and improve common site safety procedures. In addition, subcontractors will be required to add their own specific safety topics in their area of expertise.

## **6.0 Asbestos Abatement**

This section describes the major activities necessary to complete asbestos abatement at the Site. Work will commence in the sequence outlined below in accordance with the approved Asbestos Abatement Design and pursuant to applicable National Emissions Standards for Hazardous Air Pollutant (NESHAP) and OSHA standards. The Asbestos Abatement Design Plan can be found onsite, under separate cover. All asbestos abatement activities will be conducted in established regulated areas and supervised by an EPA accredited asbestos work supervisor.

### **6.1 Class I Asbestos Work**

The subsections below briefly describe the procedures for conducting Class I Asbestos work associated with thermal system insulation (TSI) and surfacing ACM.

#### **6.1.1 Constructing Enclosures and Barriers**

The work area where the removal operations occur will be separated from contamination control areas by physical curtains, doors, and/or airflow patterns that force any airborne contamination back into the work area. Static pressure and air flow volume will be monitored within the enclosure. Monitoring will likely be conducted using manometers, pressure gauges, or combinations of these devices at points identified in the asbestos abatement project design.

#### **6.1.2 Asbestos Abatement Procedures**

Preventing dust dispersion will be the primary means of controlling the spread of asbestos. Waste ACM will be bagged during or immediately after removal; the material will remain saturated until the waste container is sealed. Personal air monitoring, perimeter air monitoring and post-abatement clearance monitoring will be conducted as outlined in the Asbestos Abatement Design and as required by applicable laws and regulations throughout the ACM abatement process. The Project Team will take all appropriate measures to eliminate airborne asbestos including wetting, encapsulation, negative containment, and monitoring of site conditions (e.g. wind speed).

### **6.2 Class II Asbestos Work**

For class II abatement, removals will be accomplished by utilizing open air wet methods. Disturbed ACM will be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift. ACM material will be wetted and transferred in such manner so as to preclude the dispersion of dust.

#### **6.2.1 Structurally Unsound Buildings**

Several of the buildings at the facility that contain ACM are structurally unsound including the East and West Cell House, Facility 2 (east of the blue curtain), the Old Casting Building, and the Reagent Storage Building as referenced in the March 2011 Building Structural Assessment Report prepared by Jaster-Quintanilla & Associates. The Project Team will conduct ACM removal in structurally unsound areas at the time of building and structure demolition activities as needed to safely access the ACM for removal. Sufficient water will be applied to the active demolition zone to prevent fugitive emissions of dust and ACM.

ACM will be dismantled from the associated structure utilizing a combination of man lifts, rigging, and heavy equipment in a strategic and cautious manner to provide for controlled movement of the material from the structure to the ground level. Once the material is safely removed and the general area is stabilized and safe to work in, ground crews will begin mitigation measures. During and following the removal activities, the crews will containerize and place the removed ACM into temporary staging area(s) separate from any other waste material. The staging area(s) will be constructed to shelter the asbestos-containing waste from the elements including wind, precipitation, and surface water runoff.

### **6.3 Transportation and Disposal**

Offsite shipments of asbestos waste will be properly manifested, and the Encycle Notice of Registration (NOR) waste code number for “Asbestos from Remediation and Demolition of Equipment and Facilities” (00013111) noted. The generator section of each manifest will be signed by the Encycle Trustee or the Trustee’s designated representative prior to transport to the authorized landfill.

Regulated asbestos containing material (RACM) will be transported and disposed of at the Robstown landfill operated by U.S. Ecology or the Tessman Road Landfill operated by Republic Services/Allied Waste in San Antonito. Non-friable ACM will be disposed of at the El Centro landfill operated by Republic Services/Allied Waste along with normal construction debris.

## **7.0 Hazardous Waste Removal and Unit Decontamination**

This section describes the work activities to be performed to complete hazardous waste removal and unit decontamination. Work will be performed in accordance with the Request for Proposal (RFP) including Tables A-1 through A-4.

### **7.1 Access to Waste Management Units, Buildings, and Structures**

Existing elevated floors and walkways that provide access to many areas are deteriorated. Deteriorated elevated floors and walkways will be reinforced using ¾-inch-thick plywood sheeting or equivalent to provide access to various areas, if needed. Access by foot to previously identified structurally unsound buildings or to discrete areas deemed unsound during the engineering survey will not be permitted until such time that the work zone can be properly stabilized by heavy equipment or through the installation of temporary structural improvements.

### **7.2 Waste Management Units**

There are numerous waste management units located at the Site, many of which have been certified closed and approved by the TCEQ. As noted in Section 3.1 of the specifications and identified in Table A-1, residual fluids that may be present in these previously certified closed waste management units currently consist of storm water and do not require further decontamination prior to demolition.

The remaining waste management units that have not yet been closed by TCEQ (identified in Tables A-2, A-3, and A-4 of the RFP) will require cleaning, waste removal, waste transportation, and disposal of liquids, sludge, and solids that contain characteristic hazardous waste. Work activities and waste management protocols associated with these units are briefly described in the sections below.

#### **7.2.1 Tank and Drum Filter Decontamination and Disposal**

The estimated volume of material (identified in Table A-2 of the RFP) to be disposed of as characteristic hazardous waste associated with the tanks and one drum filter is estimated to be 215,250 gallons of water and 488 tons of sludge or solids. The standard procedure for decontamination of the tanks and drum filter will include vacuum evacuation of free liquid currently present within the tank, disconnecting fluid transfer piping into the tanks and drum filter, including roof drain piping, if present. If required by access issues, the work process may also include cutting an access port into the tank sidewalls above the top of the wastes to provide access to the wastes. In general, the access port will be cut at least 12-inches above the level of the waste contents within the unit to allow sufficient freeboard for precipitation during waste removal activities.

Once the bulk free liquid has been evacuated, personnel, following confined space entry requirements, will enter the tank. Loose waste residues, scale, and accretions on the tank/drum filter interior surfaces (including wastes on any interior piping, rakes, and baffles) will be removed to the extent possible utilizing a combination of pressure washers and hand-held scraping devices.

The tanks and drum filter will be cleaned until interior surfaces are visibly clean and free of wastes, excluding scale (if any) that cannot be removed using pressure washers and hand-held power tools. After interior surfaces of the tanks and drum filter are visually clean and free of wastes, the tank interior

surfaces will be triple-rinsed following the procedure outlined in Section 3.2 of the specifications provided with the RFP.

After each tank and drum filter is triple-rinsed, a rinsate sample will be collected by others to verify the unit has been decontaminated to the standards defined in Attachment A-1 of the RFP. The rinsate samples will be analyzed by others on a 3-working-day turnaround. If the sample does not meet the decontamination standards listed in Attachment A-1 of the RFP, additional rinse cycle(s) as described above will be conducted until the decontamination standards have been met.

### **7.2.1.1 Second Floor Facility No.2 Wooden Tanks**

Four wooden tanks on the second floor of the Facility No. 2 building (Tanks 25 through 28) are not safely accessible. The proposed method for handling the liquid (if any) present in these four tanks is described below:

An access route will be made by removing the exterior sheeting adjacent to the tanks from the metal frame of the building. An articulating man lift will then be positioned to allow for placement of a vacuum hose into the tank for subsequent free liquid removal from the tank(s). Once empty, tank connections will be severed and the tank rigged for lifting. A forklift will then be utilized to lift the tank and reposition it into either (1) a lined and tarped roll-off box for transport to the US Ecology Texas landfill, or (2) a secondary containment structure for decontamination, as described in Section 7.2.1.

### **7.2.2 Container Storage Areas**

Twelve container storage areas and two miscellaneous storage containers require decontamination. No wastes are currently present inside these 12 container storage areas and two miscellaneous storage containers, however, each storage area will be cleaned utilizing the triple rinse procedure identified in Section 3.3 of the project specifications provided with the RFP. As identified in Table A-3 of the RFP, the rinsing procedure is estimated to generate an average of 1,000 gallons of liquid per area for a total volume of approximately 14,000 gallons.

### **7.2.3 Hazardous Waste Removal from Buildings and Structures**

As indicated in Table A-4 of the RFP, previously collected samples indicated that some of the buildings and structures to be demolished contain residual amounts of characteristically hazardous wastes. These residual amounts of characteristically hazardous wastes are located on the floor and inside piping, tanks, silos, ovens, vessels, other structures, and process equipment inside the buildings to be demolished. The estimated total volume of hazardous waste liquids and sludge/solids in the buildings and structures to be demolished is 10,000 gallons and 1,300 tons, respectively.

Each work area will be assessed to determine if any type of hazardous materials or substances have been used in pipes, tanks, or other equipment on the property. When the presence of such materials or substances is apparent or suspected, testing by the Trustee or designated Trustee's Representative may be warranted and purging will be performed so the hazard can be eliminated before clean demolition processes are initiated. Building construction debris or the equipment/components which held the residual wastes (i.e., piping, tanks, silos, ovens and vessels) will be segregated from the impacted waste

material to the extent possible to minimize the volume of hazardous waste material generated from the Site.

### **7.3 Waste Management and Disposal**

The specifications provided with the RFP indicate that the structures and areas identified in this section previously contained metal-bearing hazardous waste. Representative samples of the wastes indicate that the water and sludge/solids currently present in the identified tanks, drum filter, containment storage areas, and miscellaneous residual materials identified in buildings and structures may exhibit concentrations of metals above their respective Class I hazardous waste limits.

Removal and on-site management of these hazardous materials may include, but are not limited to, the use of vacuum trucks, vacuum boxes, loaders, liquid tight containers, and containment areas for temporary storage and handling on-site.

Liquids containing less than 2% solids will be transported for disposal at the Texas Molecular commercial injection well facility in Corpus Christi, Texas. Sludge and solids will be transported for disposal at the U.S. Ecology Texas landfill in Robstown, Texas. Waste sampling will be conducted by the Trustee or Trustee's designated representative. Sample results will be utilized to characterize the material and to establish a waste disposal profile at the appropriate licensed disposal facility.

All waste shipments will be manifested utilizing Texas Waste Codes on the NOR for the Encycle facility. The generator section of each manifest will be signed by the Trustee or the Trustee's designated representative prior to transport to the authorized disposal facility.

## **8.0 Building and Structure Demolition**

This section describes the general building and structure demolition procedures and execution strategy.

### **8.1 Erosion/Sedimentation Measures**

The Project Team plans on utilizing existing manmade containment structures when present to capture waters generated during precipitation events. Where these features are not available, a combination of hay bales, straw wattles, filtration bags, and geotextile fabric will be utilized to dissipate surface water flow velocity and filter sediment from discharged waters. Placement, construction, monitoring, and maintenance of best management practices (BMP's) will be implemented in accordance with the approved SWP3. An active copy of the SWP3 is maintained at the project office trailer.

### **8.2 Dust Control**

Any time demolition activities that create dust are being conducted, the work area will be sufficiently wetted to prevent fugitive dust emissions. Implementation of dust suppression activities and air quality monitoring will be conducted in accordance with the Wind Monitoring and Dust Suppression Plan, and the October 18, 2010 *Air Monitoring Program* developed by Arcadis. Copies of these Plans are available at the project office trailer.

### **8.3 Protection of Adjacent Structures**

Adjacent structures that are not to be demolished will initially be identified by bright colored flagging. These structures will be discussed, identified by posted map, and visited to ensure that project personnel are aware of the structure protection status. In addition, a daily tail gate meeting will be held to discuss the day's work assignments to ensure work locations are clearly understood. Demolition of any structure will require clearance through the on-site Project Manager. In addition to building protection, it is also understood that the lowest concrete slab and the outermost below-grade concrete walls in the below-grade pits/sumps and pipe trenches will not be demolished.

### **8.4 Traffic Management**

One of the primary safety and production based concerns at the Site is controlling the flow of traffic within the property boundary as well as access and egress to the Site from Up River Road. Caution signs will be posted east and west of the primary Site entrance to alert drivers to turning trucks off of Up River Road. Once on Site, signage will be posted that indicates the speed limit and directs visitors to the office trailer. Proper traffic control measures will be determined by the Project Manager and the Site Safety Officer through evaluation of traffic and project area hazards. This evaluation will include the following considerations:

- Overhead obstructions;
- Traffic patterns and schedules of adjacent properties (i.e., adjustment to avoid coincident peaks of traffic);
- Severity of potential vehicle impacts on storage or demolition process areas;

- Traffic impacts on airborne dust generation;
- Pedestrian traffic patterns;
- Turning radii;
- Driver visibility along route;
- Road and staging areas surface conditions (including drainage for storm events), and;
- Route and staging areas proximity to personnel and Site demolition activities.

Based on this information, a route map will be prepared and illustrate specific haul routes within the Site boundaries, access/entry areas to public roadways, traffic signage, traffic control devices/personnel, lay down areas, loading areas, decontamination areas, office trailer, and the project main entrance. A copy of this map along with a copy of the Traffic Control Plan will be maintained at the Site office and be readily available for review. Personnel receiving the Site briefing will be trained on the Traffic Control Plan as well as the rules for vehicle operation within the scope of the Traffic Control Plan.

## **8.5 Noise Monitoring**

The noise levels from demolition activities will vary during different activity periods, depending upon the activity location(s) and the number and types of equipment being used. To understand ambient noise levels, background data will be obtained from the perimeter of the facility prior to the start of demolition activities. These values will be used to evaluate the overall augmentation of noise from the Site.

## **8.6 Proposed Phasing of Demolition Activities**

Where hazardous materials or ACM presently exist, structurally sound buildings and structures will be cleared of this material prior to initiating clean demolition operations, and as described in Section 6.2.1 for structurally unsound buildings. While removal and abatement activities are being conducted at the Site, demolition activities will commence at locations that have been previously cleared of hazardous materials and ACM. These activities may include but are not limited to removal of steel rail, demolition of clean structures, dismantling conveyor systems, and collection, segregation, and removal of motors and other miscellaneous equipment. Executing the project in this manner will allow the project to proceed with demolition, hazardous waste removal, and ACM abatement taking place concurrently, but in separate areas. The Project Team will utilize the size of the facility and the spacing of structures strategically to allow for these operations to proceed safely.

Prior to demolition, salvageable materials will be removed to the extent practical. Floors, access ways, and structures will be examined for stability. Structural improvements may be necessary for safe access to materials, or should an area be deemed unsafe, crews will not be allowed access and material segregation will occur at ground level utilizing hydraulic excavators. Once waste removal and ACM abatement, and salvage operations are complete, hydraulic excavators equipped with shears or grappling attachment will be utilized to dismantle the structure. Crews with cutting torches may be

required to cut structural members at strategic locations to provide for safe and controlled dismantlement of steel structures.

## 8.7 Smokestack Demolition

Prior to commencing demolition activities, the power to the aviation lights on the stack will be disconnected. A series of mast climber style scaffolding platforms will be erected on the outside of the stack. As the scaffolding is erected, project personnel will conduct ACM abatement of the 1/8" coating material present on the outside of the stack. Once the ACM abatement has been completed and the mast climber scaffolding is fully erected, demolition of the stack will commence. Demolition will consist of sawcutting and breakout of brick panels on each work tier level the scaffolding is set at. The debris will be dropped into and to the base of the stack where it will be retrieved and loaded out for disposal. Once the work tier is fully demolished the mast climber scaffolding will be lowered to the next tier, and so on, until the operation has reached the ground level. Photographs 1 and 2 below provide examples of how the demolition operation will proceed.



Photograph 1 – Mast Climber Scaffolding Being Erected



Photograph 2 – Workers Remove Stack Wall with Saw

The following debris removal protocols will be implemented during debris handling operations:

- Debris dropped inside the shaft will be removed through an opening in the stack at ground level.
- The opening at ground level will be kept relatively small in order not to weaken the structure and also to control dust migration.
- Proper overhead protection for the ground based removal operations will be used.
- Excessive debris will not be allowed to accumulate inside the shaft of the stack as the excess weight of the debris may impose pressure on the wall of the structure.
- The foreman will determine when debris is to be removed, and then will halt demolition activities on the smoke stack during debris removal, and make sure the area is clear of clean-up workers before continuing demolition.

The area around the stack will be roped off or barricaded and secured with appropriate warning signs posted. No unauthorized entry will be permitted to this area. A ground level supervisor or Site safety officer will maintain communication to the workers above to ensure work activities are coordinated appropriately. Special attention will be paid to weather conditions when working on the stack. No work will be done during inclement weather such as during lightning or high wind situations. The worksite at the elevated platform level as well as ground level will be wetted down as needed to control dust.

## **8.8 Waste Management Procedures**

During demolition activities, significant volumes of recovered salvageable materials, trash, as well as regulated wastes will be generated. This section covers management and handling of salvageable materials and clean demolition debris. Regulated waste handling was previously discussed in Sections 6 and 7.

Salvageable materials and clean demolition debris will be sorted and stacked or piled neatly within the staging areas to create distinct areas of like materials for loading and transportation to the appropriate mill or processing facility. Materials will be managed in a manner that prevents migration of water that comes in contact with demolition debris beyond the staging area limits. Roll-off containers and debris staging areas will be securely covered (using covers/tarps appropriate for each rolloff/container) during the non-working hours, weekends and holidays. BMP's will be installed (e.g., hay bales, booms, etc.) along the staging area(s) perimeters as necessary to prevent demolition debris erosion and sedimentation.

## **9.0 Project Closeout**

This section summarizes project closure activities to be conducted at the end of the project to ensure that relevant project information is appropriately cataloged and retained by the Trustee.

### **9.1 Project Information**

Project data will be transmitted upon request and at the end of project so the information may be referenced as needed. Upon completion of the project, information will be submitted to the Trustee in hardcopy and electronic form. The type of information maintained during the project to be submitted at project close out will, at a minimum, include:

- Waste tracking information including manifest numbers, trucks, destinations, weights, and dates;
- Safety statistics including man hours, job safety analysis, inspections, and incident investigations;
- Air monitoring data including independent asbestos abatement and perimeter monitoring;
- Wind and noise monitoring including baseline conditions and routine monitoring results;
- Construction Stormwater Permit Notice of Termination (NOT);
- Weekly Status Reports;
- Updated maps and figures;
- Photographic documentation, and;
- Copies of executed notifications and permits.