

**REMOVAL ACTION WORK PLAN**

**COLLINS & AIKMAN ACCESSORY MAT, INC.  
MOSAIC TILE PLANT DUMP SITE (NORTHERN PARCEL)  
OPERABLE UNIT 1**

**ZANESVILLE, OHIO**

**US EPA ID # OHR000114140**

**By**

**Haley & Aldrich Design & Construction, Inc.**

**For**

**Collins & Aikman**

**File No. 12725-100  
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## **1.0 INTRODUCTION**

Collins & Aikman and the U.S. Environmental Protection Agency (USEPA) entered into an Administrative Order by Consent (AOC) on April 3, 2003 pursuant to Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) for the Mosaic Tile Dump Site, Northern Parcel (Operable Unit 1) in Zanesville, OH (Site). The AOC provided for performance of removal actions and required that Collins & Aikman develop and implement certain work plans; namely, a Site-Specific Work Plan, a Site Health and Safety Plan, a Quality Assurance Project Plan, and a personnel/perimeter Air Monitoring Plan.

Haley & Aldrich Design & Construction, Inc. (HADC) has prepared this Removal Action Work Plan to establish work procedures and activities so that removal requirements of the AOC are satisfied. The information presented in this Work Plan includes activities that will be completed by HADC and our primary contractor Environmental Management Specialists, Inc. (EMS). This Work Plan is based on the EPA approved Technical Specifications and Drawings dated September 30, 2005, and the design concepts submitted to the EPA in our Basis of Design letter dated August 15, 2005. In the event of a conflict or discrepancy between this Work Plan and the Technical Specifications and Drawings, the Specifications and Drawings shall prevail. The fundamental purpose of the work is to provide waste excavation, segregation, and stabilization services with confirmation sampling to verify removal actions in accordance with the AOC and USEPA-approved project specifications.

## **2.0 AGENCY COORDINATION**

HADC and its subcontractors shall cooperate with USEPA performing required inspections, tests, and similar services and, with sufficient notice, provide reasonable auxiliary services when requested. Unless otherwise stated, HADC will notify the USEPA On-Scene Coordinator (OSC) (or designated agency representative) of scheduled activities with no less than 48 hours notice of those activities. Unscheduled activities will be managed on a case-by-case basis. HADC will contact the OSC as early as practical.

Auxiliary services may include, but are not limited to, the following:

- Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
- Taking adequate quantities of representative samples of materials that require testing or assisting the USEPA in taking samples.
- Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
- Providing the USEPA with a preliminary design mix proposed for materials and mixes that require control by the testing agency.
- Security and protection of samples and test equipment at the Site.

HADC and USEPA representatives engaged to perform inspections, tests, and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition, HADC and USEPA representatives shall coordinate activities to avoid the necessity of removing and replacing constructed work to accommodate inspections and tests. HADC shall be responsible for taking the lead in scheduling times for inspections, tests, sampling, and associated activities.

### **3.0 FIELD PROGRAM & PRE-CONSTRUCTION ACTIVITIES**

The field program has been designed to perform removal and landfill capping actions, and acquire the necessary data to demonstrate compliance with the AOC. HADC will perform soil/waste screening and sampling, construction quality control, quality control air monitoring, and verification soil sampling activities. HADC will also conduct contractor oversight as a measure of quality control during all construction activities. Data necessary to verify the work shall include soil/sediment sampling, air quality sampling, dust monitoring, and additional sampling/analysis as needed.

The standard operating procedures (SOPs) discussed herein may be varied or changed as required, (e.g., due to Site conditions, equipment limitations, or limitations imposed by the procedure). In all instances, if the procedures employed deviate from the SOPs, the deviations shall be documented for the project record.

#### **3.1 Mobilization**

As part of the Site mobilization, several activities will be performed including installation of temporary facilities, clearing utilities, and mobilizing properly trained personnel. Sections 3.1.1 through 3.1.7 provide details on mobilization activities.

##### **3.1.1 Electrical Service**

The electric service provider for the area is American Electric Power (AEP). AEP will install temporary power at the Site and perform an electrical inspection prior to energizing. After field activities are completed at the Site, AEP will disconnect the electrical service and remove all temporary power connections.

##### **3.1.2 Telephone Service**

The service provider for the telephone is SBC/AT&T who has been contacted to initiate service and connections. In accordance with their requirements, the Site must provide an address to receive service. For the purpose of this project, the address is:

Mosaic Tile - Northern Parcel  
951½ Woody Lane  
Zanesville, OH 43701

SBC/AT&T will provide two telephone lines installed at the job trailer. In addition, high-speed internet services will be provided by SBC/AT&T.

### **3.1.3 Temporary Facilities**

The temporary facilities for this project include portable restrooms and a potable drinking water cooler. A sanitary washing station will be constructed with clean water, soap, and drying towels.

### **3.1.4 Personnel Mobilization**

Prior to beginning field activities, a job trailer will be mobilized to the Site and placed on the adjacent property south of the Northern Parcel. Collins & Aikman has entered into an access agreement with the owner of the Southern Parcel. Electric and telephone service will be installed prior to the construction start date. The job trailer will be staged on the Woody Lane side of the Southern Parcel near the northwest corner of that property. The job trailer will be leveled on a stone parking area installed in advance. Erosion control materials (i.e. silt fence, stone, and erosion control matting) will be mobilized to the Site to complete installation of the silt fence and the perimeter berm construction. Other equipment will arrive as needed.

### **3.1.5 Work Schedule**

The work hours for this project will be Monday through Friday from 7:00 AM to 6:00 PM. Saturday work is allowed only after prior approval by close of business on Thursday of the same week. These hours are prescribed herein so as not to cause noise disturbances with surrounding residents.

### **3.1.6 Utility Clearance**

The Ohio Utilities Protection Service (OUPS) will locate participating public utilities in rights-of-way adjacent to the project Site. OUPS will notify utility companies that subscribe to their service. Non-participating utilities will be contacted by Site personnel. OUPS will issue a "call-in number" to Site personnel that verify which utilities have been notified.

## **4.0 SITE CLEARING ACTIVITIES**

Prior to beginning excavation activities, the Site will be cleared of all trees, brush, and debris. Trees will be cut down and transported without disturbing the soil to a staging area for chipping. After the trees have been removed, roots, brush, and shrubs will be grubbed and transported off site for disposal. Grubbing activities will proceed in a manner that minimizes over-exposure of the surface to precipitation in an effort prevent erosion. Sections 4.1 and 4.2 describe these site clearing activities.

### **4.1 Tree Cutting and Chipping**

Tree cutting and chipping services will be performed by McElroy Tree Service of Zanesville, Ohio. All personnel performing tree cutting and chipping activities will be 40-hour OSHA trained prior to entering the Site. All standing timber will be cleared and moved to a staging area inside the property boundary. To the extent possible, trees will be moved to a chipping area without coming in contact with the ground. The timber will then be chipped and directly conveyed into a truck for off-site disposal. Other wood debris that is not in direct contact with the ground will be removed and chipped in the same manner. Any timber, wood, logs,

limbs, or sticks impacted by the soil will remain in place and will NOT be chipped for disposal.

Any area inside the fence of the Northern Parcel will constitute the Exclusion Zone during McElroy's tree clearing activities. A temporary decontamination area will be established on the west side of the property inside the perimeter fence. After tree cutting and chipping is complete, all the equipment will be decontaminated prior to leaving the Site.

#### **4.2 Clearing and Grubbing**

In order to remove all stumps and grasses on site, personnel will utilize two trackhoe excavators and two skid-steer loaders to remove and stage debris. One of the excavators will be working around the perimeter of the property to remove several of the larger trees. A second (smaller) excavator will be positioned on top of the fill to remove stumps. The skid-steer loaders will work with both excavators to stage stumps or root balls for disposal. As the stumps are removed, they will be shaken to remove as much soil as practical and all cavities will be backfilled and compacted with imported soil. The backfill soil (supplied by Shelly & Sands) will be staged outside the Exclusion Zone.

During this work, an HADC Technician will utilize an XRF soil analyzer to evaluate soils on the stumps for lead content as they are removed from the ground. The stumps will be segregated in two stockpiles based upon XRF results and physical inspection. A difference in native soil versus fill material may be evident by discoloration on the root balls. Root balls with visual discoloration suggesting lead-containing tile glaze (typically pale gray in color) and/or XRF readings higher than 400 mg/Kg will be stockpiled separately from root balls with native materials and an XRF reading lower than 400 mg/Kg. Each root ball will be identified based upon these observations with either an "X" for readings above 400 mg/Kg or an "O" for readings below 400 mg/Kg. Plastic will be placed on the ground and the stockpiles will be placed on the plastic. Prior to disposal, stockpiles will remain covered with plastic. TCLP analysis for lead will be conducted on samples collected from soil remaining on the root balls in each stockpile. For this task, soil will be collected from multiple locations around each stockpile and composited into one representative sample. Disposal as either hazardous waste or non-hazardous waste for each stockpile will be determined by TCLP results.

### **5.0 SITE CONTROLS AND PROTECTION**

In order to maintain control of Site conditions and protect the surrounding properties from impacts associated with activities conducted during this project, several vital control procedures are described in the following Sections.

#### **5.1 Erosion Control**

A key component to erosion control includes leaving existing ground cover intact as long as possible to reduce erosion using native vegetation. This vegetation will only be removed on the landfill immediately prior to emplacement of soils and before regrading of the Site. Minimal ground cover will be removed until hot spot excavations, soil stabilization, and soil

transportation off site are complete. As stockpiled soils are classified and deemed appropriate for placement under the cap, the vegetative cover will be removed to place soils on the landfill. Newly placed soils will be covered nightly either with 6 inches of cover soil or with plastic sheeting.

Silt fence around the perimeter of the jobsite will be installed in conjunction with the site clearing and grubbing activities. Initially, the south fence will be removed to gain access to contamination below it. The fence will be offset 20-feet to the south to allow for the installation of silt fence and benching of the excavation to the north.

In conjunction with fence relocation, an area approximately 4- to 5-feet wide will be cleared along the former fence location. Soils and grasses excavated during this activity will be placed up-slope on the Northern Parcel to act as a berm. The silt fence will be installed down slope from this berm. Soil berms will be constructed along other portions of the perimeter in front of the silt fence in areas of steep slope to add extra protection against surface water runoff in the event of heavy precipitation.

The geo-synthetic installation contractor will start applying the landfill cover as soon as the landfill sub-grade has been established. The area outside of the footprint of the cap will be graded while the landfill cover is being installed. Permanent erosion control channels and spillways will also be installed during final grading of the landfill cap.

## **5.2 Dust Control**

The dust control Section is submitted in accordance with the project specifications for the Mosaic Tile Plant Dump Site (Operable Unit 1). It complies with the Ohio Administrative Code 3745-17-08, Restriction of Emission of Fugitive Dust. The related Air Sampling Plan is included in the Site-Specific Health and Safety Plan (prepared and submitted by EMS). The purpose of this Section is to provide procedures for control of dust for the health of onsite personnel and prevent soil constituents from traveling offsite.

### **5.2.1 General Dust Suppression**

Water collected from the site, filtered, and discharged into a holding tank will be used as a source for the dust suppression water supply if laboratory results indicate it does not contain concentrations of lead. Water will be pumped into a water truck and sprayed onto any area emitting visible dust. Water from Chaps Run will also be used for dust control in the event that water in the holding tank is insufficient. This water will be pumped from the waterway into appropriate vessels for use on site. Portable spraying mechanisms will be used to address areas where the water truck cannot access. These mechanisms will be used on soil stockpiles as they are generated.

### **5.2.2 Supplemental Dust Suppression**

The most effective dust suppression will be leaving the native vegetation intact as long as possible. This will decrease the exposure of soil to traffic and environmental factors. Another form of dust suppression will be the installation of dust control screens on the perimeter fence (discussed in Section 5.2.5).

### **5.2.3 Haul Road Dust Suppression**

The haul roads will be watered aggressively to keep dust below the perimeter air monitoring action level. This water application will be sufficient to suppress dusts but will not be applied at a rate that facilitates excess runoff.

### **5.2.4 Stockpile Dust Suppression**

While stockpiles are being constructed, the piles will be sprayed with water. Dust will be kept below an action level of 4 mg/cubic meter inside the exclusion zone. Once the stockpiles have been built, they will be covered with plastic sheeting held in-place by sand bags.

### **5.2.5 Perimeter Dust Control**

A perimeter dust control screen will be installed along the perimeter fencing to capture dust. This material will consist of Mirifi 140N dust blanket that has an Apparent Opening Size (AOS) of 0.212 mm. It is constructed of non-woven geotextile polypropylene fibers. The blanket will be installed around the entire fence line and will be held in-place using nylon tie wraps.

## **5.3 Stormwater Control**

Stormwater will be managed throughout the project to minimize off-site migration of impacted soil and sediment. All water collected during this effort will be filtered and tested before off-site transportation and disposal.

### **5.3.1 Temporary Stormwater Basin**

A temporary stormwater basin will be constructed in the north-central portion of the property for the purpose of collecting and holding on site runoff of precipitation. Inside the collection basin, a temporary sump area will be excavated for use as a preliminary filtering mechanism, as well as the discharge point from the basin to the holding tanks.

### **5.3.2 Stormwater Collection, Storage, and Disposal**

The collection basin sump will be constructed of stone surrounded by filter fabric with an 8-inch perforated pipe installed in the center. As water collects in the sump, a suction hose will be inserted through the center of the pipe so that water can be pumped through a second filtration vessel into a holding tank.

The primary filtration will happen as water passes through an 8-ounce non-woven geotextile fabric installed to secure the stone. A secondary filtration system will be installed in advance of the water going into the holding tank consisting of filter housing with 0.03-micron bag filters. As water passes through the filters, sediment will be removed by the bag filters. After the bag filters begin to restrict flow, they will be replaced with new filters. The amount of restriction in the filter will be monitored by comparing readings from two differential pressure gauges installed on the bag filter housing. Sediment collected in these filters will be included for disposal off site or placement under the landfill cap, depending on laboratory analysis.

Water within the holding vessel will be sampled for laboratory analysis. If laboratory results indicate the water meets discharge requirements, it will be transported off site for disposal at the City Wastewater Treatment Plant.

## **6.0 WASTE EXCAVATION ACTIVITIES**

In accordance with the project specifications, waste from the site will be excavated, segregated, stockpiled, and either stabilized for off-site disposal or placed under the landfill cap. Prior to beginning this work, monitoring wells in areas scheduled for excavation will be abandoned in accordance with Ohio guidelines for sealing unused wells.

### **6.4.1 Monitoring Well Abandonment**

Four monitoring wells at the Site will be decommissioned prior to beginning excavation activities. These wells are identified as MW-1, MW-2, MW-4, and MW-5. Each well will be located and marked during the mobilization phase and abandoned per Ohio "Technical Guidance for Sealing Unused Wells" (1996).

### **6.4.2 Hot Spot Excavation**

Prior to beginning excavation activities, visible glaze at the surface will be identified and surveyed then added to the scope of excavation that includes "hot spot" removal. The subsequent excavation of designated "hot spots" will begin in the center of each hot spot and proceed outwards. Visible contamination will be removed as instructed by an HADC representative on site. Work will proceed only as fast as soil can be analyzed with the XRF analysis equipment, classified, and sorted into appropriate concentration categories for lead impact (see Charts 1 and 2 for details).

As materials are removed, they will be stockpiled alongside the excavation. No soils will be stockpiled outside the perimeter fence line and all stockpiles will be kept as small as practical to improve stabilization efforts with ECOBOND® (described in Section 6.5). Wind erosion of stockpiled soils will also be minimized by implementing this strategy.

All material from hot spot excavations will be stockpiled in areas that are accessible from the haul road. After the material is stabilized, analyzed, and approved for disposal, it will be loaded onto triaxle and end-dump trucks for transportation off site.

### **6.4.3 Debris Segregation**

During waste excavation and stockpiling of soils, objects greater than 15-inches in dimension will be sorted and stockpiled separately. Large objects will be crushed until they are below 12-inches in dimension. Objects greater than 15-inches, which cannot be crushed, will be buried (as per specification 02200-15-3) or taken off site for disposal. Materials will be segregated per the specifications in Charts 1 and 2.

### **6.4.4 Erosion Control of Stockpiles**

Straw bales will be installed on the upslope side of all stockpiles to control runoff. Stockpiles will be covered at all times with plastic sheeting except during stabilization and loading activities. Orange safety fencing will be installed around all excavations and stockpiles to designate them as physical hazard areas.

Soil from the eastern portion of the property (near Benjamin Road) will be removed and stockpiled along the eastern edge of the footprint of the new geosynthetic cap. These stockpiles will be secured with straw bales installed upslope and covered with plastic until placed on the landfill using a track excavator and an off-road truck to redistribute for final placement.

### **6.5 Soil Stabilization**

The hot spot soils will be stabilized by mixing with ECOBOND<sup>®</sup>, which encapsulates the lead in the soil (MSDS attached). The mixing blend will not be less than 3 percent by weight per specifications provided by ECOBOND<sup>®</sup>. This ratio was determined from treatability tests performed on samples collected from the Site at three different grid locations and different depth intervals.

During this task, soil from each hot spot will be excavated and stockpiled. A Licensed Surveyor will then survey the excavation area(s) to determine the quantity of soil removed. This quantity will determine the amount of ECOBOND<sup>®</sup> required to achieve the proper ratio. The ECOBOND<sup>®</sup> material will be shipped to the Site in either super sacks or bulk form. ECOBOND<sup>®</sup> guarantees the product and a representative from ECOBOND<sup>®</sup> will be on site during all stabilization activities to ensure proper mixing techniques are executed.

The ECOBOND<sup>®</sup> material is provided as a granular substance that will be mixed into the soil using an excavator. After the ECOBOND<sup>®</sup> representative indicates the appropriate blend has been achieved; the soil will be sampled and submitted for laboratory analysis of TCLP lead.

While awaiting laboratory results, the stockpiles will be covered with plastic sheeting until the results indicate that the soil is below 5 mg/L TCLP for lead.

### **6.6 Solid Waste Disposal, Decontamination, and Management**

For this project, solid waste disposal will include debris and soil generated from tree cutting, clearing, grubbing, and hot spot excavation. The following Sections describe this effort.

### **6.6.1 Hazardous Waste**

Stumps and root balls with soil that are generated during the grubbing activities may contain lead concentrations that exceed TCLP limits for disposal purposes. This condition will be determined by laboratory analyses on composite soil samples collected from root ball stockpiles. Root balls with soil that exceed a TCLP lead concentration of 5 mg/L will be disposed of as hazardous waste at Envirite, Inc. of Canton, Ohio.

### **6.6.2 Non-Hazardous Waste**

At the writing of this document, there are 13 identified hot spots based on results from investigation activities performed by others. Twelve of the 13 hot spots are within the footprint of the "limits of relocated waste" that will be excavated to a depth of 4-feet below the ground surface. These soils will be field analyzed by HADC using XRF analysis equipment. If these soils exhibit a lead concentration greater than 1800 mg/Kg they will be stockpiled, stabilized, and TCLP tested for lead. If TCLP results indicate the leachable lead in soil is below 5 mg/L, it will be transported off site for disposal as solid waste at Waste Management's Suburban Landfill in Glenford, Ohio. All other non-hazardous materials will be disposed of at the Waste Management facility in Glenford, Ohio. Suburban Landfill is a Subtitle D permitted facility authorized to accept CERCLA wastes. This facility will also accept the non-hazardous stumps as long as they are mixed with soil.

### **6.6.3 Decontamination**

Exclusion Zones (EZ) will be set up around the hot spot excavations and all stockpiles. When the excavation equipment is exposed to contaminated soils inside an EZ, it will be decontaminated prior to leaving the area.

A temporary decontamination pit will be constructed approximately 1-foot deep and lined with plastic. Timbers will be placed over the top of the pit to allow equipment to straddle the pit. A pressure washer will be used to remove contamination from the tracks or tires. The equipment will leave the decon station and exit immediately onto the new haul road built on site.

The EZ will also have a temporary personnel decontamination station set up for persons that must enter the EZ. A drop station for tools and PPE will be located adjacent to the decontamination station with wash station at the egress point of the EZ. PPE will be placed into appropriate containers for disposal.

### **6.6.4 Below Cap Fill**

The Subgrade Layer will consist of on-site soils reclaimed from the existing cover and processed as needed to be free of materials that could abrade or penetrate the low permeability layer. The Subgrade Layer material shall not contain sharp materials or objects greater than 1-in. The surface will be smooth-rolled to ensure a smooth uniform contact with the low permeability layer. Soils (with the largest percent of acceptable debris) will be installed below the subgrade layer to eliminate contact between debris and the geo-membrane.

These soils will be placed in 24-inch lifts and compacted. A self-propelled vibratory roller imparting a force of not less than 40,000 pounds will be used to compact the soils. Open areas will be compacted 4 times with the compaction equipment. Trenches or small areas will be compacted with a plate compactor exerting a force of not less than 11,000 pounds with four complete passes.

## **7.0 SITE RESTORATION**

Site restoration includes construction of the landfill cap, construction of surface water runoff swales, and perimeter fence repair activities as described in the following sections.

### **7.1 Cap and Swale Construction**

American Environmental Group LTD, based in Richfield, Ohio, will install the geo-synthetic cap. AEGL will be installing a textured 40-mil Linear Low Density Polyethylene (LLDPE) geo-membrane as the cover material and SKAPS TN 270-2-6 geo-composite filter fabric. The footprint of the proposed landfill cap is 122,100 square feet, which includes 5-foot overlap on the edges.

The toe drain will be 1-foot deep by 1-foot wide. The trench will be lined with 8-ounces/square yard filter fabric; #7 aggregate will be placed into the trench; perforated N-12 piping will be installed; and #7 aggregate will be placed around the pipe. The filter fabric will be folded over the top of the toe drain trench. Piping will be installed around the perimeter of the footprint of the landfill and will daylight at the specified locations into the swale. The piping will be 4- and 6- inch perforated N-12 pipe as per specifications. The starter trench will be excavated. The trench will be 2½-feet deep by 2-feet wide. The geo-membrane material will be placed in the trench and clay will be compacted around the geo-membrane to lock it in place.

Clays will be imported from a virgin source supplied by Shelly & Sands. The imported clays will have an in-place permeability of less than  $1 \times 10^{-7}$  cm/sec. Laboratory testing will be performed to insure compliance with this specification

The clay will be placed starting at the southwestern edge of the cap. The clay will be dumped and spread with a Low Ground Pressure (LGP) bulldozer (high-track model). There will be a minimum of 2-feet of fill between the cap and the tracks of the equipment as the soil is spread around. The clay will be compacted with a self-propelled smooth-wheeled compactor. There will be a minimum of four passes with the compaction equipment.

### **7.2 Perimeter Fence Repair**

The existing perimeter fence will be repaired or replaced to ensure the Site remains secure after project completion. A 30-foot swing gate will be installed on the west side of the property to allow access. The east side will be completed with the existing 10-foot gate. Upon completion of the project, all keys will be returned to the Owner.

## **8.0 POST-CONSTRUCTION ACTIVITIES**

### **8.1 Site Restoration**

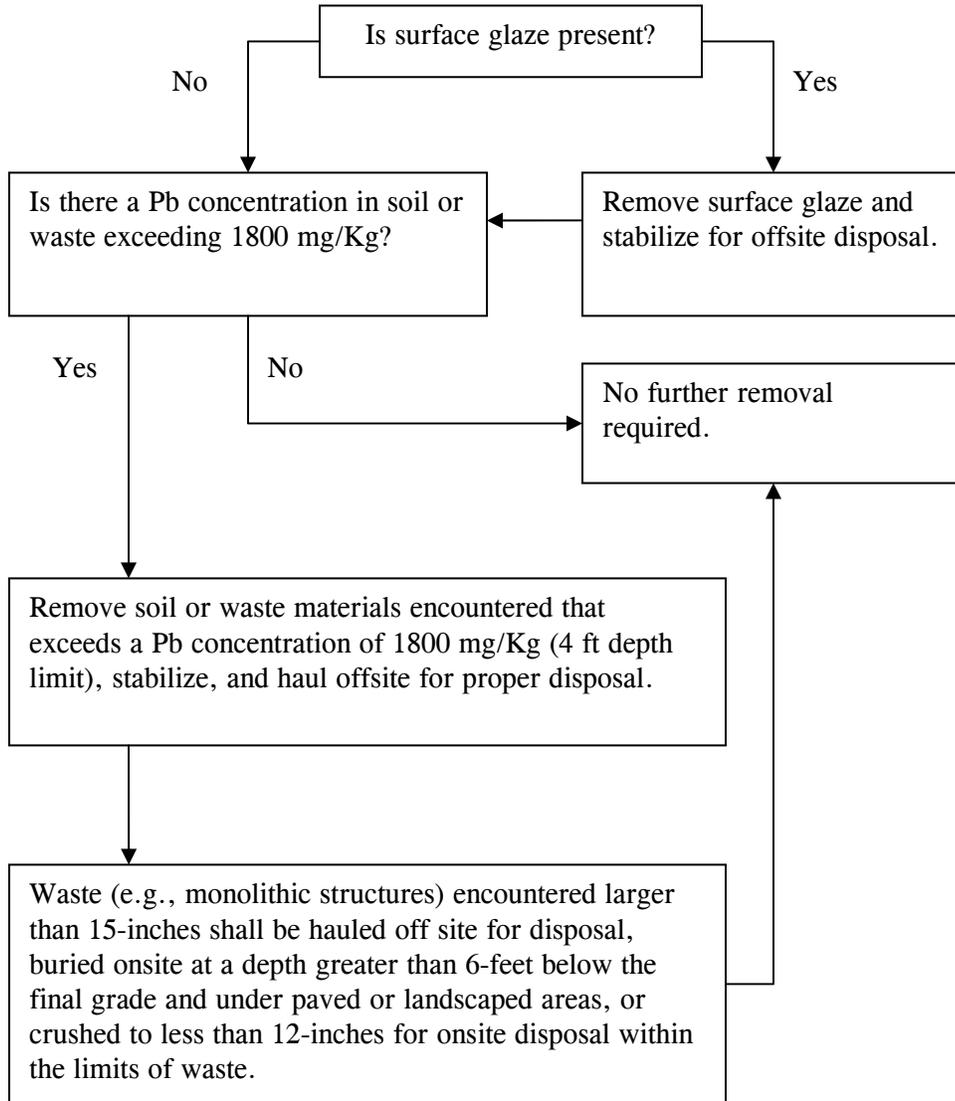
All exposed areas within the job Site will be covered with topsoil placed in loose lifts and graded to match existing contours. Exposed areas will be planted with native grass using hydro seed methods and further landscaped with thornless honey locust trees (2 inch caliper *Gleditsia Triacanthos Inermis* Shademaster) planted around the perimeter of the property. The Site will be watered at a rate of 1-inch per week until the vegetative cover has germinated and requires maintenance. Under the current contract between Collins & Aikman and HADC, HADC will provide maintenance including re-seeding, mowing, watering, and fertilizing for one year from the date of hydro seeding.

### **8.2 Demobilization**

As the project concludes, equipment will be demobilized from the Site as appropriate. Most of the equipment will be removed from the Site before hydro seeding occurs. All equipment necessary to remove temporary utilities will remain on site until the job trailer is demobilized. The temporary electric and telephone utilities will be disconnected and removed at the completion of the project.

**CHART 1**

**EXCAVATION INSIDE THE LIMITS OF WASTE**



**CHART 2**

**EXCAVATION OUTSIDE THE LIMITS OF WASTE**

