



engineering and constructing a better tomorrow

May 24, 2006

Mr. Joseph T. Martella II, Senior Engineer
RIDEM Office of Waste Management
Site Remediation Program
235 Providence Street
Providence, RI 02908

RE: Slag Removal Work Plan
Former Gorham Manufacturing Facility, Plat 51 – Lots 323, 324, and 326
333 Adelaide Avenue, Providence, Rhode Island
Case No. 97-030 (Including Case No. 2005-029 and Case No. 2005-059)
MACTEC Project No. 3650050041.02

Dear Mr. Martella:

In accordance with our discussions between April 17 and May 11, 2006, MACTEC Engineering and Consulting, Inc. (MACTEC) is pleased to submit this Slag Removal Work Plan (Work Plan) for your review and approval, on behalf of Textron, Inc. An estimated 1,000 cubic yards (cy) of slag material from a former smelting operation have been identified for excavation at the above referenced site. This Work Plan outlines the steps to be taken to fulfill Requirement I Removal Actions of the Rhode Island Superior Court Consent Order (Park Parcel) dated March 29, 2006. Notification of the neighborhood for the slag removal was completed by EA Engineering, Science and Technology, Inc. on May 5, 2006, in accordance with the Court Consent Order.

This Work Plan is generally in conformance with Section 9: Remedial Action Work Plans of the Rhode Island Department of Environmental Management (RIDEM) Remediation Regulations DEM-DSR-01-93. MACTEC's subcontractor will mobilize during the week of May 22, 2006, to begin the site preparation, including the installation of an erosion control barrier (limit of work), site clearing and temporary removal/replacement of chain link fencing installed by the City of Providence, done in accordance with the Court Consent Order for Parcels B and C. Beginning the week of May 30, 2006, the subcontractor will excavate the slag at the base of the slope and inside the chain link fence (and school site construction fence). The excavated slag will be handled under applicable regulations for the selected removal option. Following the completion of field activities, MACTEC will prepare a summary letter of the slag removal for submittal to RIDEM by the Court requirements of September 25, 2006.

PROPOSED SCOPE OF WORK

Health and Safety – MACTEC will update their Site Health & Safety Plan to support the implementation of this Work Plan and its subcontractor. A Job Hazard Analysis will be used to determine the risks and hazards associated with the project tasks and prescribe required preventative actions to minimize exposures and hazards.

Operating Log – To document on-site activities, an operating log will be maintained for the Site throughout the site preparation and slag removal activities. The operating log will include

information describing the removal activities, field observations, and disposal shipping documentation, photo documentation, field measurements of the observed slag pile and monitoring well GZA-5 rehabilitation (or abandonment if necessary).

Erosion Controls – In order to minimize runoff of soils and slag material during the excavation activities, a hay bail/silt fence barrier will be installed to surround the work area, extending from the upland area down the slope towards Mashapaug Cove (Figure 1). This erosion control barrier will act as the Limit of Work for the slag removal activities. The existing hay bail/silt fence barrier from the school construction site will be connected into this erosion control system. Upon completion of the slag removal activities, the erosion control measures around the former slag pile will remain in place until the surface soil has been stabilized.

Chain Link Fence – A chain link fence has been installed by the City of Providence completely around the Park Parcel in accordance with the Court Consent Order dated March 29, 2006. In addition a second fence has been installed to surround the construction site for the school that provides additional access restrictions to the slag removal area. The new chain link fence was required to ensure that the public could not access the Park Parcel until it has been remediated to residential standards. This fence will prohibit the access of the construction equipment to complete the removal of the slag material, also required under a Court Consent Order dated March 29, 2006, as removal activities will require an opening of approximately 50-feet to maneuver the equipment and excavate the slag material.

Therefore, the slag removal subcontractor will either install a series of 20-foot gates or will temporarily reconstruct the fence such that the fence can be rolled back out of the way during working hours and then rolled out to secure the Site at the close of each working day. Temporary fence posts may be used during these removal activities. At the completion of the slag removal actions, the subcontractor will reconstruct the chain link fence and posts to meet the intent of the Court Consent Order.

Tree and Shrub Removal – Currently small trees and low brush are growing in and around the slag material. To allow entry of equipment to the slag area and removal of the slag, these trees and shrubs will be cleared, chipped and removed from the Site for off-site disposal. The trees and brush to be removed are located within the erosion control barrier (Limit of Work) shown on Figure 1.

Temporary Access Road Grading and Loading Pad – Once the vegetation is removed, grading of the dirt road from the upland area to the slag removal area will be required. This grading will use only existing on-site materials. Depending on the stability of the existing soil, the subcontractor may install a geotextile fabric and gravel material to stabilize the temporary equipment access road. The purpose of the road grading is to create a safer and more stable surface for machinery on the Site. The excavator used for slag removal will be used to grade the dirt roadway. The grading will focus on decreasing the area that would currently be too steep for equipment to safely traverse.

The upland area at the top of the bank will be graded to support the construction of a temporary loading pad and to provide access and egress for machinery. The approximate location of the truck access, loading pad and egress is shown on Figure 2. The temporary loading pad will potentially include a poly liner and gravel placed on the ground that will extend beyond the limits of the truck. Once the loading operations are complete these materials will be removed and

disposed of by the subcontractor. The erosion control barrier constructed for the slag removal will extend up the hill along each side of the access road and along the upgradient and downgradient sides of the loading pad, as shown on Figure 1. The hay bales will be used to support the restoration of the slag area.

Reconstruction or Decommissioning of Monitoring Well GZA-5 – Two monitoring wells were located within the slag material area, MW-110D and GZA-5, and must be addressed in order to remove the slag material from the Park Parcel. On May 3, 2006, Shaw Environmental & Infrastructure abandoned MW-110D in accordance with Rhode Island regulations “Rules and Regulations Governing the Enforcement of Chapter 46-13.2”, Section 9.02 “Procedure for Permanent Abandonment”. This abandonment will be documented by Shaw as part of their ongoing groundwater remediation activities on Parcel A. GZA-5 remains within the middle of the slag area and attempts will be made to reconstruct this well in order to continue to use this monitoring well as a point of compliance for the groundwater plume on Parcel A.

During the removal of the slag the steel casing of GZA-5 will be exposed and will be cut in short sections for off-site disposal. The monitoring well cap will be maintained on the well to protect against material entering the well. Once the slag has been removed a steel casing will be inserted over the exposed monitoring well and the locking cap set into place.

If during the removal activities, it is determined that this well can not be saved, then it will be decommissioned in accordance with Section 9.02 referenced above. The well shall “be sealed with any of the following materials: heat cement grout, or sand clay or bentonite cement grout.” Plugging and abandoning of a well to be abandoned shall be performed by a licensed well driller. All casing and screen materials that can be removed will be removed. In addition, regulations require the removal of casing to a minimum of four feet below the ground surface.

Excavation of Slag Material – With access open to the slag area and erosion controls in place, a track mounted excavator will remove the slag material. The ending point will either be at the observed bottom of slag or interaction with the water table, which ever comes first. Handling of excavated materials is described in the Transport Off-site section below.

Metal Debris Removal – A 30 cy container will be placed inside the school construction fence near the gate in the northeast corner of Parcel B. This container will be used to store metal debris collected from the Park Parcel for off-site disposal. During the removal and off-site disposal of the slag material, the subcontractor will walk the Park Parcel to remove any metal debris identified on the surface. Prior to its removal, MACTEC will measure its xy location coordinates and photograph prior to and following its removal. MACTEC will also document in the site log book the type of material (e.g., car door, chain link fence, etc) and quantity of material removed from each location. Metal debris will be loaded into the container. At the completion of the slag removal project, the container of metal debris will be removed for off-site disposal under a Bill of Lading. This documentation will be included in the summary report discussed below.

Transport Off-site – Textron is currently evaluating options for the off-site disposal of the slag material either as a waste to be transported to a permitted disposal facility, as a non-hazardous material to be re-used in manufacturing operations, or for on-site treatment and off-site disposal as a non-hazardous waste. Transportation and disposal firms are collecting representative samples to help determine the disposal and reuse options available under RCRA regulations. Textron will coordinate with RIDEM prior to any potential on-site treatment and off-site disposal

being conducted. All slag material being shipped off-site will be handled either with a bill of lading or a hazardous waste manifest. Weight slips will be provided by the transport and disposal firms along with the shipping documentation. This documentation will be included in the summary report submitted to RIDEM at the completion of the slag removal, as discussed below.

Trucks transporting slag material will access the Site through the school construction site gate near Adelaide Avenue, drive along the side of the school site inside the construction fence and onto the loading pad. Once loaded, the trucks will be covered and exit the gate at the northeast corner of the school site and follow the driveway out along Adelaide Avenue.

Site Restoration – At the completion of the slag removal, confirmatory soil samples will be collected beneath the slag pile as part of the site investigation activities required under the Court Consent Order. Following the confirmatory soil sampling, the loading pad and former slag area located between the chain link fence and Mashapaug Cove will be cleared of all debris, graded to tie into existing grades at the Limit of Work and seeded. Hay bales from the upland area (loading pad and access road) will be broken up and spread on surface to control potential erosion of the surface material. The erosion control barrier will remain in place until after the grass seed has fully grown into place. It should be noted that pending the results of the site investigation, this area may be part of a soil cover to be installed on the Park Parcel.

Once Textron has completed the slag removal activities, the City's contractor will be installing approximately 1-6 feet of fill in the area above (south) the fence, grading and installing surface treatment (e.g., parking/landscaping) as required by the construction of the high school.

Summary Report – At the completion of the slag removal activities, off-site disposal of the slag and metal debris, and upon receipt of the confirmatory soil sampling, MACTEC will prepare a summary report for submittal to RIDEM. This report will summarize the removal activities conducted to date, visual observations, photo documentation, quantity estimates, site restoration, location and identification of metal debris removed, transportation and disposal documentation and confirmatory soil sampling results. This summary report will be submitted to RIDEM prior to the September 25, 2006 specified in the Court Consent Order, dated March 29, 2006.

Proposed Schedule – Based upon the proposed scope of work outlined in this Work Plan, the following schedule has been prepared. Items listed after the May 29, 2006, required start date will be completed by the September 29, 2006, required completion date. Once the handling and disposal methods for excavated material are decided with RIDEM a more detailed schedule will be prepared for RIDEM. Textron and MACTEC will continue to coordinate with RIDEM throughout the slag removal, disposal and reporting activities.

- Review of Removal Work Plan with RIDEM May 15-19, 2006
- RIDEM Approval of Work Plan May 19, 2006
- Site Preparation (erosion controls, clearing, fencing, etc) May 22-26, 2006
- Court Consent Order required start date (holiday) May 29, 2006
- Slag Removal and Off-site Disposal Beginning May 30, 2006
- Court Consent Order required summary report submittal September 25, 2006

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We look forward to working with RIDEM on the review and execution of this Slag Removal Work Plan. Feel free to contact either me (781) 213-5655 or Greg Simpson of Textron (401) 457-6007 with any questions. We are available either for a conference call or to meet with RIDEM to address any questions you may have on this Work Plan.

Sincerely
MACTEC Engineering and Consulting, Inc.



Daron G. Kurkjian
Staff Engineer



David E. Heislein
Principal Engineer

Attachments: Figure 1 – Slag Area Detail
Figure 2 – Construction Road Access Plan

cc: T. Regan, EA Engineering, Science, and Technology
G. Simpson, Textron, Inc.
D. McCabe, Textron, Inc.
J. Schiff, Textron, Inc.
MACTEC Project File [P:\W2-mfg\TEXTRON\GORHAM\Slag Removal Action\Work Plan - Slag Removal Final.doc]