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**Final Removal Action Work Plan**

**116 Townsend Street and  
Harrell Street Sewer Line  
Hattiesburg, Mississippi**

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**Project No. 21-04**

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## **Removal Action Work Plan**

### **116 Townsend Street and Harrell Street Sewer Line Hattiesburg, Mississippi**

#### **1.0 Introduction**

##### **1.1 Project Background**

In 2003, Tronox LLC (formerly known as Kerr-McGee Chemical LLC, or KMC) funded a project that included the installation of approximately 3,700 feet of culvert pipe to replace an open ditch (“the northeast drainage ditch”) in Hattiesburg, Mississippi. The purpose of the project was to improve existing drainage in the project area and to address ditch sediments and soils containing polycyclic aromatic hydrocarbons (PAHs). Implementation of the *Removal Action Work Plan, Northeast Drainage Ditch* (Michael Pisani & Associates, August 3, 2001) was required pursuant to an Agreed Order between the MCEQ and KMC (Order No. 4539 03, January 28, 2003). Approximately 95 percent of the activities described in the MDEQ-approved *Removal Action Work Plan* for the northeast drainage ditch were completed during 2003; the remainder of the work is being held up by site access issues.

During implementation of the MDEQ-approved plan, affected soils were observed in several areas outside of the boundaries of the approved project. At 116 Townsend Street, a seam of visibly-affected soil was observed extending beneath the driveway toward the residence. A review of historical aerial photography revealed that prior to residential development of the area, the ditch actually ran through the property at 116 Townsend Street, entering on the Harrell Street side and exiting on the Francis Street side of the lot. At some time, a culvert was installed along Harrell Street, and the segment of the ditch crossing the lot for 116 Townsend Street was apparently backfilled. Tronox has reached an agreement with the residents at 116 Townsend Street, who own the improvements and hold the lease for the property, to remove affected soils from the subsurface.

In addition, visibly-affected soil was observed surrounding a sanitary sewer line beneath Harrell Street and immediately adjacent to the property at 116 Townsend Street. During the 2003 removal action, the affected soils were removed and the sanitary sewer line was replaced within the boundaries ditch and culvert project. Tronox committed to the City of Hattiesburg and MDEQ to remove additional impacted soils and replace additional sewer line at a later date.

On March 28, 2006, the Mississippi Commission on Environmental Quality (MCEQ) issued to Tronox an Administrative Order (MCEQ Order No. 5116 06) for certain response activities at 116 Townsend Street in Hattiesburg, Mississippi. The Administrative Order requires the following:

- the revision, submittal and implementation of a *Final Removal Action Work Plan, 116 Townsend Street and Harrell Street Sewer Line* (i.e., this document);
- the preparation, submittal and implementation of a work plan for “post-remedial confirmation sampling associated with the old drainage ditch at 116 Townsend Street” (Appendix A of this document); and
- the preparation and submittal of a report documenting the results of post-remediation sampling.

## **1.2 Removal Action Objectives**

The activities described in this work plan are designed to address impacted media within and adjacent to the completed portions of the northeast drainage ditch project. The specific objectives of this removal action are to:

- eliminate the potential for exposure to affected soils; and
- eliminate or greatly reduce the potential for infiltration of precipitation and leaching of constituents from affected soils to shallow ground water.

## **2.0 Waste Handling**

Soils excavated during the removal action will be managed in the same manner as during 2003 remediation activities. It is anticipated that all of the excavated soils will be transported by trucks to Waste Management's Central Landfill in McNeill, Mississippi for offsite disposal. However, should heavily-impacted materials (i.e., sediment and soils containing free product or saturated with hydrocarbon) be encountered during the removal action, Tronox may elect to send these materials to Waste Management's Subtitle C landfill in Emelle, Alabama.

### **3.0 Pre-Construction Activities**

Certain tasks must be completed prior to mobilizing to the field for construction activities. These tasks include the following:

- coordinating with the City of Hattiesburg;
- coordinating the clearance of subsurface and overhead utilities;
- designating exclusion zones and other work areas; and
- coordinating with the City of Hattiesburg on traffic control issues.

Details regarding these tasks are provided in this section.

#### **3.1 Utilities Clearance**

Michael Pisani & Associates, Inc. (MP&A) will be responsible for identifying all subsurface and overhead utility lines located within the boundaries of the project. This will consist of requesting utilities clearance from Mississippi One-Call and coordinating with the City of Hattiesburg Public Services Department. The construction contractor will take precautions to protect utilities from damage during construction. Should the relocation of utility lines be required, the contractor will coordinate with the utility owner regarding the scope, schedule, and payment for such relocation.

#### **3.2 Demolition and Clearing**

In order to excavate affected materials from the former ditch, it was first necessary to remove the house on the property. Prior to demolition, the house was inspected for asbestos by a licensed asbestos abatement contractor, and asbestos-containing materials (floor tiles and window glaze) were removed and disposed of in accordance with applicable regulations. On February 27, 2006, demolition of the house was completed by TL Construction of Hattiesburg. Building materials were sent to a construction and demolition landfill for disposal.

#### **3.3 Temporary Fencing**

Temporary fencing will be installed at the perimeter of work areas prior to commencing construction. This will include the lot line for the property at 116 Townsend and the edges of the anticipated excavation area for the City of Hattiesburg sanitary sewer beneath Harrell Street.

#### **3.4 Designation of Work Areas**

The temporarily fenced area will be considered an exclusion zone, with access limited to construction workers, MP&A personnel, MDEQ personnel, and City of Hattiesburg Public Works Department personnel only. Additional details regarding specific work areas will be provided to MDEQ and the City prior to field mobilization, as necessary.

### **3.5 Traffic Control**

During the removal action, trucks loaded with material bound for offsite disposal will result in increased vehicular traffic in the project area. MP&A will coordinate with the City of Hattiesburg Public Works Department to address street closings, rerouting of traffic, and appropriate routes for truck traffic.

## 4.0 Construction Activities

Procedures for conducting the actual removal action are established in this section.

### 4.1 Mobilization

Once all pre-construction tasks are completed, and upon receipt of written approval of this plan from MDEQ, the construction contractor will mobilize to the field all equipment, materials, and personnel required to complete the project. Prior to commencing construction, a start-of-job meeting will be conducted at the site to discuss the sequence of project tasks and to establish clear lines of communications between MP&A, the construction contractor, MDEQ and City of Hattiesburg personnel.

### 4.2 Excavation and Loading

Procedures for the removal and handling of affected materials will be the identical to those in the *Removal Action Work Plan* for the northeast drainage ditch, which were approved by MDEQ prior to the 2003 removal action. Excavation will be conducted using a trackhoe, with soil loaded directly into trucks for immediate transportation and offsite disposal. No excavated soils will be stockpiled on site and care will be taken during loading so that affected materials are not spilled on the ground or the exterior of dump truck beds. Soils within the historical ditch will be removed to a depth of six feet below land surface (i.e., MDEQ's definition of surface soils). Any creosote-saturated soils and/or free product encountered at depths greater than six feet below land surface will also be removed. However, in no instance will excavation proceed past the first encountered ground water.

Soil surrounding the sewer line will be excavated to a depth of 1 to 2 feet below the sewer line, or deeper if free product or creosote-saturated soils are encountered. This represents the depth to which materials would be removed during sewer line maintenance or repair. As during previous soil removal activities, the remedial contractor will work with the City of Hattiesburg Public Services Department to replace cracked or broken sewer line. Excavated materials will be replaced with clean, compacted backfill to cover and provide a stable base for the sewer line.

As documented in the original *Removal Action Work Plan*, ditch sediments and soils have been tested and determined to be nonhazardous. However, should materials containing free-phase hydrocarbon be encountered during excavation, such materials will be sent to a Subtitle C landfill as nonhazardous waste. Materials containing free liquids, if encountered, will be mixed with a sufficient amount of stabilizing agent to meet transportation and disposal requirements for free liquid content. Arrangements will be made in advance with a Hattiesburg-based vendor of bed ash, in case any free liquids or saturated soils requiring stabilization are encountered.



### **4.3 Transportation and Disposal**

All loaded trucks will be covered with tarps before leaving the site. Loaded trucks will proceed directly to Waste Management's Central Landfill in McNeill, Mississippi (a Subtitle D industrial solid waste landfill). The best route for truck traffic will be determined during discussions with City of Hattiesburg personnel. The construction contractor will be responsible for keeping up with waste manifests and other transportation and disposal records, as appropriate.

### **4.4 Verification Sampling and Analysis**

Tronox has prepared a plan for verification sampling of the soils surrounding the former ditch (Appendix A). The verification sampling is being required by MDEQ pursuant to an Administrative Order from the Mississippi Commission on Environmental Quality (MCEQ) dated March 28, 2006 (MCEQ Order No. 5116 06). The excavation will be lined with heavy duty plastic and will remain open pending the results of verification sampling.

### **4.5 Backfilling and Seeding/Paving**

Backfilling will commence as soon as practicable after verification sampling results are received. Backfilled materials will be compacted to 90% of standard proctor density. Backfilled areas on the property at 116 Townsend Street will be planted with common Bermuda grass seeding. Backfilled areas beneath Harrell Street will be paved with asphalt. MP&A will coordinate with the City of Hattiesburg Public Services Department to ensure that pavement meets the City's standards for use on roadways.

## **5.0 Health and Safety**

The contractor selected to provide construction services will be responsible for developing a comprehensive Health and Safety program for the project. All workers involved in the removal and handling of impacted materials must be HAZWOPER trained in accordance with OSHA regulation 40 CFR 1910.120. The contractor to perform removal and handling of impacted materials will be responsible for the development of a Health and Safety Plan for the removal action. This plan will address, at a minimum, physical and chemical hazards, safe work practices, hazard communications, worker personal protective equipment, and key health and safety personnel. All persons working at or visiting the site, including but not limited to MP&A, MDEQ and City of Hattiesburg personnel, will adhere to the provisions of the relevant contractor's Health and Safety Plan.

Tronox will conduct air monitoring as during previous remedial activities in the former Process Area. This will consist of monitoring for organic vapors. Dust suppression measures (e.g., wetting down the work area with potable water) will also be implemented, as necessary.

## 6.0 Reporting

Upon completion of the entire northeast drainage ditch project, a *Removal Action Report* will be submitted to MDEQ for review and approval. This report will document field activities, including any deviations from the approved *Removal Action Work Plan* and the reasons for any such deviations. Copies of the as-built drawings will be provided with the report.

## 7.0 Schedule

Pursuant to MCEQ Administrative Order 5116 06, removal action activities will commence within 30 days from the approval of this plan. It is anticipated that soil removal and verification sampling will take approximately one week to complete. The excavation will be backfilled as soon as practicable after receipt of verification sampling results and MDEQ approval. MDEQ will be notified two weeks in advance of any site work.