

## **APPENDIX C**

### **On-Property Corrective Measures Implementation Construction Completion Report**



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Subject:  
On-Property CMI Construction Documentation Report  
Koppers Inc. Superior, Wisconsin Facility  
WDNR BRRTs No: 0216000484  
WDNR Facility ID: 816009810

ENVIRONMENT

Dear Mr. Saari:

Date:  
September 12, 2011

On behalf of Beazer East, Inc. (Beazer), ARCADIS U.S., Inc. (ARCADIS) is submitting two copies of the *On-Property Corrective Measures Implementation Construction Documentation Report* (CMI Documentation Report), for the Koppers Inc. Facility in Superior, Wisconsin (the Site). This report documents the completion of corrective actions implemented to address impacted media within the on-property portion of the Site in 2010 and 2011, and has been prepared as required by and in accordance with Wisconsin Administrative Code, Chapter NR 724.15.

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Jeffrey S. Holden

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This CMI Documentation Report is being submitted to the Wisconsin Department of Natural Resources (WDNR) for review and approval. Consistent with Wisconsin Administrative Code, Chapter NR 749, a check in the amount of \$250.00 is also enclosed.

Our ref:  
B0039231.0000

Should you have any questions or comments regarding the enclosed document, please contact me (860.533.9906) or Ms. Jane Patarcity of Beazer (412.208.8813).

Sincerely,

ARCADIS U.S., Inc.

Jeffrey S. Holden  
Principal Engineer

Copies:  
John Robinson, WDNR \*  
Bob Egan, USEPA \*  
Jane Patarcity, Beazer \*  
Linda Paul, Koppers \*  
David Bessingpas, ARCADIS

\* electronic copy on compact disc

**Beazer East, Inc.**

**On-Property Corrective Measures  
Implementation Construction  
Documentation Report**

Koppers Inc. Facility  
Superior, Wisconsin

September 2011



A handwritten signature in black ink, appearing to read "Hillary Evanko".

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Hillary Evanko, P.E.  
Wisconsin P.E. No. 40248-006

A handwritten signature in blue ink, appearing to read "Jeffrey Holden".

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Jeffrey Holden  
Principal Engineer/Program Manager

A handwritten signature in blue ink, appearing to read "David Bessingpas".

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David Bessingpas  
Project Manager

**On-Property Corrective  
Measures Implementation  
Construction Documentation  
Report**

Koppers Inc. Facility  
Superior, Wisconsin

Prepared for:  
Beazer East, Inc.

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Our Ref.:  
B0039231.0000

Date:  
September 2011



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- I Compaction Test Results
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**Certification**

I, the undersigned, state that, in my opinion, the corrective actions at Koppers Inc. (KI) Facility property in Superior, Wisconsin were implemented in general conformance with the approach described in this *On-Property Corrective Measures Implementation Construction Documentation Report*. Modifications made to the initial design documents necessitated by conditions encountered in the field were completed in conformance with the approach described in this *On-Property Corrective Measures Implementation Construction Documentation Report*.

Hillary Evanko, P.E.  
(Name)

  
(Signature)



Construction Engineer  
(Title)

ARCADIS U.S., Inc.  
(Company Name)

9-9-11  
(Date)

## 1. Introduction

On behalf of Beazer East, Inc. (Beazer), ARCADIS has prepared this *On-Property Corrective Measures Implementation Construction Documentation Report* (CMI Documentation Report) to describe the corrective actions implemented to address impacted media within the Koppers Inc. (KI) Facility located in Superior, Wisconsin. This CMI Documentation Report has been prepared as required by and in accordance with Wisconsin Administrative Code Chapter NR 724.15 – *Remedial and Interim Action Design, Implementation, Operation, Maintenance and Monitoring Requirements*.

The corrective actions described in this CMI Documentation Report specifically addressed the on-property portion of the Site (i.e., the portion of the Site located within the KI property boundaries; Figures 1 and 2). Impacts beyond the KI property are being addressed separately in coordination with the Wisconsin Department of Natural Resources (WDNR).

The remedial actions were performed in accordance with the *On-Property Corrective Measures Implementation Design Report* (CMI Design Report; ARCADIS, 2009), which was conditionally approved by the WDNR on May 25, 2010. ARCADIS provided responses to the WDNR's comments to the CMI Design Report on July 2, 2010. The WDNR approved the responses to comments via email on July 8, 2010.

The objectives of the corrective actions were to:

- Mitigate direct contact by potential receptors to surface soils containing constituents of potential concern (COPCs) at concentrations that may affect human health. The *Post-Remediation Human Health Risk Assessment* (Post-Remediation HHRA; AMEC, 2007) identified six areas – Areas A, B, F, G, H and S (Figure 2) – that were targeted based on this objective.
- Minimize the potential for direct contact with Outfall 001 drainage ditch materials containing COPCs and to minimize the potential for downstream migration of COPCs.

The Site is located in a rural, sparsely populated setting in northwestern Wisconsin, approximately five miles southeast of the City of Superior (Douglas County) at the junction of County Roads A and Z (Figures 1 and 2). The on-property portion of the Site (i.e., the KI Facility property [Facility]) is approximately 112 acres in size and is zoned for industrial use. As shown on Figure 2, the eastern Facility property boundary generally parallels County Road A and the northern property boundary parallels Hammond Avenue.



Historical wood-treating operations were located at the north end of the property and the remaining operational portions of the property were primarily used to store treated and untreated wood. As further described in *Focused Corrective Measures Study* (Focused CMS; ARCADIS 2007), historical facility operations resulted in the presence of wood-treating constituents in various areas of the Site. The various areas were investigated since 1981, including during the RCRA Facility Investigation (RFI) process conducted in 1990 and 1996, and were evaluated in the *Post-Remediation Human Health Risk Assessment* (AMEC 2007). Remedial alternatives were evaluated and recommended in the Focused CMS (ARCADIS 2007).

Wetland assessment and delineation activities performed in 2002, 2004 and 2007 identified approximately 44 acres of wetlands within the limits of the Facility property.

## **2. Implementation of Remedial Actions**

### **2.1 Overview**

The remedial actions were initiated between August and December 2010 and, following a winter shutdown period, completed between June and July 2011. The construction activities were implemented by Severson Environmental Services, Inc. (Severson) and their subcontractors, and construction oversight was conducted by ARCADIS. The key work activities, which are further detailed in the following subsections, also included the following:

- Consolidation of soil excavated from Areas F-1, F-2 and the Outfall 001 drainage ditch, and from select locations within Area B, into Area A.
- Construction of minimum 1-foot-thick soil covers at Areas A, B, F-1, F-2, G, H, S-1 and S-2.
- Installation of an engineered liner system in the on-property portion of the Outfall 001 drainage ditch.

The remedial actions were performed in accordance with the WDNR-approved CMI Design Report (ARCADIS, 2009). As construction activities progressed and conditions in the field required modifications to the initial design, field orders that described the required construction changes were prepared. All issued field orders (Field Orders 1 through 7) are included as Appendix A.

Prior to and during construction, Severson submitted information on the specific materials and products to be incorporated into the remedial action construction. Details of the materials and products are included in the Contractor Submittal Register (Appendix B), which was used to track, document, and verify that the construction materials and products supplied were in accordance with the design or otherwise deemed appropriate for use at the site consistent with project objectives.

Weekly Progress Reports, which included photographs and descriptions of the completed work activities, were provided to the WDNR throughout the construction activities. Copies of the Weekly Progress Reports are included in Appendix C.

During construction, conference calls were held weekly among representatives from Beazer, ARCADIS and Severson to maintain project team communication. Construction activities conducted during the previous week and activities scheduled for the upcoming week, as well as the status of the overall project schedule, were discussed during each call.

## 2.2 Permitting and Other Regulatory Requirements

### 2.2.1 General Permit to Discharge under the Wisconsin Pollutant Discharge Elimination System

On July 7, 2010, ARCADIS, on behalf of Beazer, submitted the following Requests for Coverage:

- *Pit and Trench Dewatering Wastewater General Permit (WPDES Permit No. WI-0049344-3)*, for dewatering activities to be conducted in preparation for the Outfall 001 drainage ditch restoration activities
- *Wastewater Discharge Permit (WI-0046566-05) for Contaminated Groundwater from Remediation Action Operations*, for on-Site water treatment/discharge activities. This Request for Coverage addressed water generated from the following two sources:
  - Concrete tank basin – An approximately 4,500 square foot concrete tank, located in Area B, which contained approximately 2 feet (67,500 gallons) of standing water.
  - Outfall 001 Drainage Ditch – Water removed from each Outfall 001 drainage ditch sectional work area after intrusive work began.

On July 27, 2010, WDNR issued the coverage under WPDES Wastewater Discharge Permits (WI-0049344-3 and WI-0046566-05) (Appendix D).

In accordance with the issued coverage, ARCADIS submitted monthly Discharge Monitoring Reports (DMRs), which are also included in Appendix D. In total, approximately 51,000 gallons of water were treated and discharged on-Site. As documented in the November 12, 2010 DMR, during the month of October 2010, there were issues achieving the permit permit-specified discharge limits for total and certain individual PAHs. As a result, a total of approximately 26,000 gallons of treated water were discharged to the Superior Publicly Owned Treatment Works (POTW) on November 20, 2010, in lieu of discharging on-Site. Weight tickets for the 26,000 gallons of treated water discharged to the Superior POTW are included in Appendix E.

On February 9, 2011, ARCADIS communicated to the WDNR that all site activities related to the issued coverage were complete and requested that the coverage be terminated. The WDNR confirmed termination in an email dated February 11, 2011 (Appendix D).

### 2.2.2 Wetland Water Quality Certification and USACE Permit

An Application for Wetland Water Quality Certification was initially submitted to the WDNR and USACE on October 2, 2008. The application was revised to reflect WDNR/USACE comments on the October 2, 2008 submittal, Beazer's September 4, 2009 responses to WDNR/USACE comments, and the final design, and was resubmitted to WDNR/USACE for approval on March 2, 2010. The approach presented in the March 2, 2010 revised application included placement of Vegetated Surface Covers in affected wetlands, and mitigating wetland disturbances by a combination of purchasing 1.91 credits from Lake Superior Wetland Mitigation Bank (LSWMB) and contracting with LSWMB to create a 2.01-acre project-specific, off-Site mitigation wetland.

The WDNR provided comments to the revised application during a telephone conversation with ARCADIS on July 23, 2010. Based on the WDNR's concerns with the proposed Vegetated Soil Covers in the wetland areas, the soil cover design for wetland areas was modified to be a Clay Vegetated Surface Cover, consisting of a layer of non-woven geotextile, 12-inches of clay general fill and 3-inches of topsoil with vegetation. This design modification was communicated to the WDNR and USACE in an email dated July 23, 2010, and was verbally approved by the WDNR on July 26, 2010. Field Order 2 (Appendix A) communicated this design change to the Contractor.

On July 28, 2010, the WDNR issued the Water Quality Certification. On August 10, 2010, the USACE issued a permit to place fill material in property wetlands, with a condition that the wetland areas be seeded with the Board of Water and Soil Resources (BWSR) W2N (34-371) native seed mix. The revised seed mix was communicated to the Contractor in Field Order 2 (Appendix A).

Copies of the Water Quality Certification, USACE permit and documentation of the wetland mitigation activities (bank credit purchase memo, as-built report for the off-Site mitigation wetland and Grant of Covenants for the off-Site mitigation wetland), are included in Appendix D.

### 2.2.3 Construction Site Storm Water Runoff General Permit

A Notice of Intent (NOI) was submitted to the WDNR on July 12, 2010, to obtain coverage under the General Permit. On July 27, 2010, WDNR issued the coverage under WPDES General Permit No. WI-S067831-3 (Appendix D). A Notice of Termination (NOT) will be submitted following confirmation that vegetation has been adequately established in all work areas.

### 2.3 Site Survey

LHB, Inc. (LHB) provided surveying support services during the construction activities. LHB was at the Site several times prior to and during construction activities to layout or record the following:

- pre-construction conditions
- limits of construction
- proposed final grade elevations
- record post-construction conditions, which were utilized to prepare the Record Drawings (Appendix F)

### 2.4 Site Preparation

#### 2.4.1 Monitoring Well Abandonment

In preparation for the construction activities, groundwater monitoring wells W-16A and W-17A were abandoned (Figure 2). The abandonment activities were conducted in accordance with Wisconsin Administrative Code Chapter NR 141 by Boart Longyear Company. Completed Well/Drillhole/Borehole Filling & Sealing Forms were submitted to the WDNR on August 25, 2010, and are included as Appendix G.

#### 2.4.2 Temporary Erosion and Sedimentation Control Measures

Temporary erosion and sedimentation control measures were implemented prior to any significant soil disturbance or grading operations in work areas, in accordance with the Erosion and Sediment Control Plan (E&SCP; included as Appendix F of the CMI Design Report [ARCADIS 2009]). The temporary erosion and sedimentation control measures used at the Site are briefly described below:

- *Silt Fence* – Silt fence was used to reduce the velocity of runoff and encourage deposition of suspended sediments. Silt fence was installed in accordance with the standard methods described in the WDNR's *Stormwater Management Technical Standards* and the Contract Drawings, parallel to topographic contours.
- *Stone Tracking Pad* – To accommodate construction traffic, a stone tracking pad was constructed at the existing Facility driveway from County Road A. The stone tracking pad consisted of 3- to 6-inch stone underlain by woven geotextile. Construction roads were stabilized with gravel as needed to reduce the potential for degradation of the roads during wet weather and reduce erosion.

- *Dust Control* - Water was applied to access roads on an as-needed basis throughout construction at a rate that reduced the potential for dust generation but did not cause soil erosion.
- *Ditch Flow Diversion* – Sectional work areas were established along the Outfall 001 drainage ditch to facilitate construction sequencing and stormwater management activities. Water flow into the active work areas was restricted by installing temporary coffer dam structures across the existing tributaries and/or installing plugs in the ends of existing pipes that flow into the Outfall 001 drainage ditch.

Temporary erosion and sedimentation controls were inspected weekly and following significant rainfall events. The results of the erosion and sedimentation control inspections were documented on inspection forms, which are included as Appendix H.

#### 2.4.3 Clearing and Grubbing

Vegetation within the limits of construction was cut to be flush with grade. Following clearing, all stumps, roots larger than 1½ inches in diameter, and matted roots were removed. All cleared and grubbed materials from outside of soil cover limits were chipped and distributed over vegetated areas as mulch. Stumps and roots generated from within the soil cover areas were initially stockpiled at Area A and then chipped and blended into the subgrade fill placed within Area A.

#### 2.4.4 Debris Removal

As described in further detail in Section 2.5.3, prior to grading at Area B, debris and standing water from a former tank area were removed and disposed of off-site.

### 2.5 Installation of Surface Covers

Work within the surface cover areas included the following:

- Areas G, H, S-1 and S-2 – Subgrade preparation (including “bridging of wet/soft areas, as further described below); Clay Vegetated Surface Cover installation; and restoration
- Areas F-1 and F-2 – Subgrade leveling; Clay Vegetated Surface Cover and Road Base Surface Cover installation; and restoration
- Area B – Debris removal; Concrete Tank Basin preparation; subgrade leveling; Clay Vegetated Surface Cover; Vegetated Surface Cover and Road Base Surface Cover installation; and restoration

- Area A – Placement of grubbed material, ground timber mats and excavated material from Areas B, F-1, F-2 and the Outfall 001 drainage ditch; Vegetated Surface Cover installation; and restoration

The majority of the surface cover installation work was conducted from August 2 to December 8, 2010. Additional restoration activities were conducted in June and July 2011.

Additional details of the work activities conducted at each of the soil cover areas are provided in the subsections below.

#### 2.5.1 Areas G, H, S-1 and S-2

As detailed in Field Order No. 3 (Appendix A), standing water and soft conditions were encountered at Areas G, H, S-1 and S-2. Woven geotextile and angular stone were placed in these wet areas, as necessary, to bridge the standing water and soft soils and provide a stable surface for operation of the construction equipment and installation of the Clay Vegetated Surface Covers.

The Clay Vegetated Surface Covers were installed at Areas G, H, S-1 and S-2 in accordance with Field Order No. 2 (Appendix A) by placing non-woven geotextile on top of the prepared subgrade, and 1 foot of clay general fill and 3 inches of topsoil on top of the non-woven geotextile. The final surface of the Clay Vegetated Surface Covers was graded to provide drainage away from the existing railroad tracks.

Record Drawings RD-4 and RD-5 present the post-construction layout of Areas G, H, S-1 and S-2 (Appendix F).

#### 2.5.2 Areas F-1 and F-2

In preparation for installation of the Road Base and Clay Vegetated Surface Covers at Areas F-1 and F-2, the top 1 foot of existing materials were excavated. As described in Section 2.5.4, excavated material was placed in Area A.

The Clay Vegetated Surface Cover was installed in a portion of Area F-1 in accordance with Field Order No. 2 (Appendix A) by placing non-woven geotextile on top of the prepared subgrade, and 1 foot of clay general fill and 3 inches of topsoil on top of the non-woven geotextile. Due to observed evidence of erosion at the downstream end of the Area F1 drainage ditch during a Site visit in May 2011, the clay general fill and topsoil materials were removed from the ditch bottom and replaced with 1-foot of R-3 riprap at the downstream end (approximately 15 feet) of the channel in June/July 2011, as shown on Record Drawing RD-3.

The Road Base Surface Cover was installed in the remaining portion of Area F-1 and over all of Area F-2 by placing woven geotextile on top of the prepared subgrade and 1 foot of road base gravel on top of the non-woven geotextile. The prepared subgrade and each maximum 8-inch thick lift of road base gravel used to construct the Road Base Surface Cover was compacted to 90 percent Standard Proctor Maximum Dry Density. Subgrade and Road Base Surface Cover compaction tests results conducted at two subgrade and two final grade locations are included in Appendix I.

Record Drawing RD-3 presents the post-construction layout of Areas F-1 and F-2 (Appendix F).

### 2.5.3 Area B

Prior to any grading at Area B, debris and standing water from a former tank area were removed and disposed of off-site. A total of 60 cubic yards of debris and 2,940 gallons of liquid were transported to the Clean Harbors Canada Inc. facility in Corunna, Ontario for disposal. Waste manifests are included in Appendix E.

Weathered rail ties were also removed from within Area B. Three loads of weathered rail ties were transported to Tangent Rail Energy in Duluth, Minnesota for processing and subsequent use by the Minnesota Power Plant. Bills of Lading for the transport of the weathered rail ties are included in Appendix E.

In addition, prior to any grading at Area B, the concrete tank basin was prepared to receive fill materials, as detailed in Field Order No. 2 (Appendix A). Water was pumped out of the basin and containerized for temporary treatment plant and on-site discharge or discharge to the Superior POTW, as described in Section 2.2.1. The northwestern corner of the concrete wall was demolished and the bottom and remaining walls were lined with non-woven geotextile.

Subgrade leveling was performed in Area B in preparation for installation of the Clay Vegetated, Vegetated and Road Base Surface Covers in accordance with Field Orders 2 and 4 (Appendix A). The subgrade was tracked with a dozer to identify soft areas and to provide a minimum level of compaction. Any soft areas that were identified were treated with Portland cement. The surface covers were then installed as follows:

- Clay Vegetated Surface Cover – Installed by placing non-woven geotextile on top of the prepared subgrade, and 1 foot of clay general fill and 3 inches of topsoil on top of the non-woven geotextile.
- Vegetated Surface Cover – Installed by placing non-woven geotextile on top of the prepared subgrade, and 1 foot of general fill on top of the non-woven geotextile. The prepared subgrade and each maximum 10-inch thick lift of general fill used to



construct the Vegetated Surface Cover was compacted to 90 percent Standard Proctor Maximum Dry Density. Subgrade and Vegetated Surface Cover compaction tests results conducted at three subgrade and three final grade locations are included in Appendix I.

- Road Base Surface Cover – Installed by placing woven geotextile on top of the prepared subgrade, and 1 foot of road base gravel on top of the non-woven geotextile. The prepared subgrade and each maximum 8-inch thick lift of road base gravel used to construct the Road Base Surface Cover was compacted to 90 percent Standard Proctor Maximum Dry Density. Subgrade and Road Base Surface Cover compaction tests results conducted at eight subgrade and eight final grade locations are included in Appendix I.

Because of observed evidence of erosion in a portion of a drainage channel along the eastern portion of Area B during a Site visit in May 2011, a layer of non-woven geotextile and 1-foot of R-3 riprap was installed in the downstream end (approximately 25 feet) of the channel in June/July 2011, as shown on Record Drawing RD-2.

Because of observed rutting in a three areas of the Road Base Surface Cover during a Site visit in May 2011, portions of the Road Base Surface Cover were removed so that subgrade in the rutted areas could be treated with Portland cement. Following solidification of the subgrade, the Road Base Surface Cover was reinstalled by placing woven geotextile on top of the solidified subgrade, and 1 foot of road base gravel on top of the woven geotextile.

Record Drawing RD-2 presents the post-construction layout of Area B (Appendix F).

#### 2.5.4 Area A

Cut material from Areas F-1, F-2 and B, and the Outfall 001 drainage ditch, were placed as subgrade fill over Area A. Stumps and roots generated from clearing and grubbing activities within the soil cover areas and timber mats used for access during work in the wetland areas were chipped and blended into the subgrade fill placed within Area A.

Once materials were consolidated from other areas, the Vegetated Surface Cover was installed at Area A by placing non-woven geotextile on top of the subgrade fill materials, and 1 foot of general fill on top of the non-woven geotextile.

Record Drawing RD-3 presents the post-construction layout of Area A (Appendix F).

## 2.6 Outfall 001 Drainage Ditch

Work within the on-property portion of the Outfall 001 drainage ditch included subgrade preparation and installation of a liner system. The majority of the work in the Outfall 001 drainage ditch was conducted from November 9 to November 23, 2010. Seeding of disturbed areas immediately south of the drainage ditch was completed in June and July 2011.

As described above, sectional work areas were established along the Outfall 001 drainage ditch to facilitate construction sequencing and stormwater management activities. Water flow into the active work areas was restricted by installing temporary coffer dam structures across the existing tributaries and/or installing plugs in the ends of existing pipes that flow into the Outfall 001 drainage ditch.

Channel liner system installation activities began at the upstream end (station 0+00; see Record Drawing RD-7, Appendix F). In each section work area, the channel liner system installation activities consisted of the following:

- Subgrade preparation – Removal of soil materials from the existing channel bottom and channel side-slopes as needed to accommodate the channel restoration materials and to maintain the minimum channel geometry indicated on Detail A of Record Drawing RD-8. As described in Section 2.5.4, excavated material was placed in Area A.
- Liner system installation – In accordance with Detail A of Record Drawing RD-8, a 6-inch layer of gravel was installed over the prepared subgrade to serve as a collection layer for mobile non-aqueous phase liquid (NAPL).<sup>1</sup> The remainder of the liner system consists of Reactive Core Mat (RCM), 6-inches of general fill, non-woven geotextile and 1-foot of R-3 riprap. Anchor trenches were installed at the top of each bank to secure the liner system materials.

The existing culverts (24-inch corrugated metal pipe [CMP] and 36-inch CMP [station 0+00] and 36-inch CMP [station 2+66]; see Record Drawing RD-7), were extended as necessary to accommodate slope restoration. General fill was added to the west-facing banks to establish 1H:1V slopes. RCM was installed and trimmed to fit closely to the existing 24-inch and 36-inch diameter CMPs (station 0+00) and existing 36-inch CMP (station 2+66), and bulk organoclay was packed in any voids between the RCM and existing CMPs. Non-woven geotextile and R-3 rip-rap were placed over the

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<sup>1</sup> The NAPL collection layer was included as a conservative measure based on historical observations on NAPL in the vicinity of the channel. Mobile NAPL was not observed during construction and NAPL has not accumulated in either of the sumps to date.

general fill. Rip-rap mattresses were installed at the CMP outlets, as shown on Record Drawing RD-8.

At the existing concrete headwall on the upstream side of the railroad crossing (station 2+34; see Record Drawing RD-7) and at the v-notch weir at the property line (station 5+20), the gravel layer, RCM and general fill layer were terminated approximately 2 1/2 feet from the headwall and v-notch weir, respectively. A sump and bulk organoclay plug were installed at each location in accordance with Details D and E on Record Drawing RD-8. Mobile NAPL (if any) that enters into the gravel layer will drain downstream and collect in the sumps, where it can be removed via the HDPE pipes, as shown in Detail F on RD-9.

In accordance with Detail I on Record Drawing RD-9, at existing open-channel tributary connections (stations 0+37, 1+90, 3+15 and 4+94; see Record Drawing RD-7), the gravel layer was extended to the end of the transitional slope between the main ditch to the existing tributary bottom elevation. RCM, general fill, geotextile and R-3 rip-rap were placed in the tributary channel to approximately 10 feet upstream of the confluence of the tributary channel and the Outfall 001 drainage ditch. Anchor trenches were installed at the top of each bank to secure the liner system materials (see Detail B, Record Drawing RD-8).

In accordance with Detail J on Record Drawing RD-9, at existing culverted tributary connections (stations 1+75 and 3+10; see Record Drawing RD-7), the gravel layer was extended beneath the existing culverts. The RCM was trimmed to fit tightly around the existing culverts, and bulk organoclay was packed in any voids between the RCM and existing CMP. The slopes around the tributary culverts were restored with general fill, non-woven geotextile and R-3 rip-rap.

## **2.7 Seeding and Restoration**

As they were completed, the final grade surfaces of each of the disturbed areas were rolled with a smooth drum or sheepsfoot roller to protect the surfaces from erosion until the areas were seeded and vegetation was established.

In accordance with Details 6 and 8 (see Record Drawing RD-6), stone was placed along the transition slopes at fill areas adjacent to plant railroads in Areas B, H and G.

On September 30, 2010, the topsoil in Areas F-1, G, H, S-1, and S-2 was seeded with the Board of Water and Soil Resources (BWSR) W2N (34-371) native seed mix identified in Field Order 2 (Appendix A). Final surface cover grading in Areas B and A was completed on November 9, 2010 and December 7, 2010, respectively. Accordingly, straw was tracked into these areas to minimize the potential for soil erosion until seeding could be completed in 2011. Topsoil (4 to 6 inches) was placed

throughout Areas A and B, followed by grass seed and mulch, in June/July 2011. The slopes around the perimeter of Areas G, H, S-1 and S-2, as well as the Clay Vegetated Surface Cover portion of Area F1 were re-seeded/mulched in June/July 2011. Following re-seeding, erosion control mat (ECM) was installed in these areas as well. ECM was also installed in certain locations in Area B with higher erosion potential.

## **2.8 Quality Control**

A pre-construction survey was performed by LBH on a 100-foot grid to establish the final grade elevations in all surface cover areas. Grade stakes marked at the final grade elevation and 1 foot below the final grade (i.e., at the proposed subgrade elevation) were installed. Each grade stake was visually checked following subgrading and following surface cover installation to confirm a minimum thickness of 1 foot.

As discussed in Section 2.4.2, the results of the erosion and sedimentation control inspections were documented on an inspection form, which are included as Appendix H.

Subgrade, Road Base Surface Cover and Vegetated Surface Cover compaction tests results conducted at subgrade and final grade locations in Areas B and F-1 are included in Appendix I.

### **3. Post-Construction Monitoring and Maintenance**

Monitoring and maintenance activities are detailed in the Final Operation and Maintenance Plan (Appendix J).

#### **4. References**

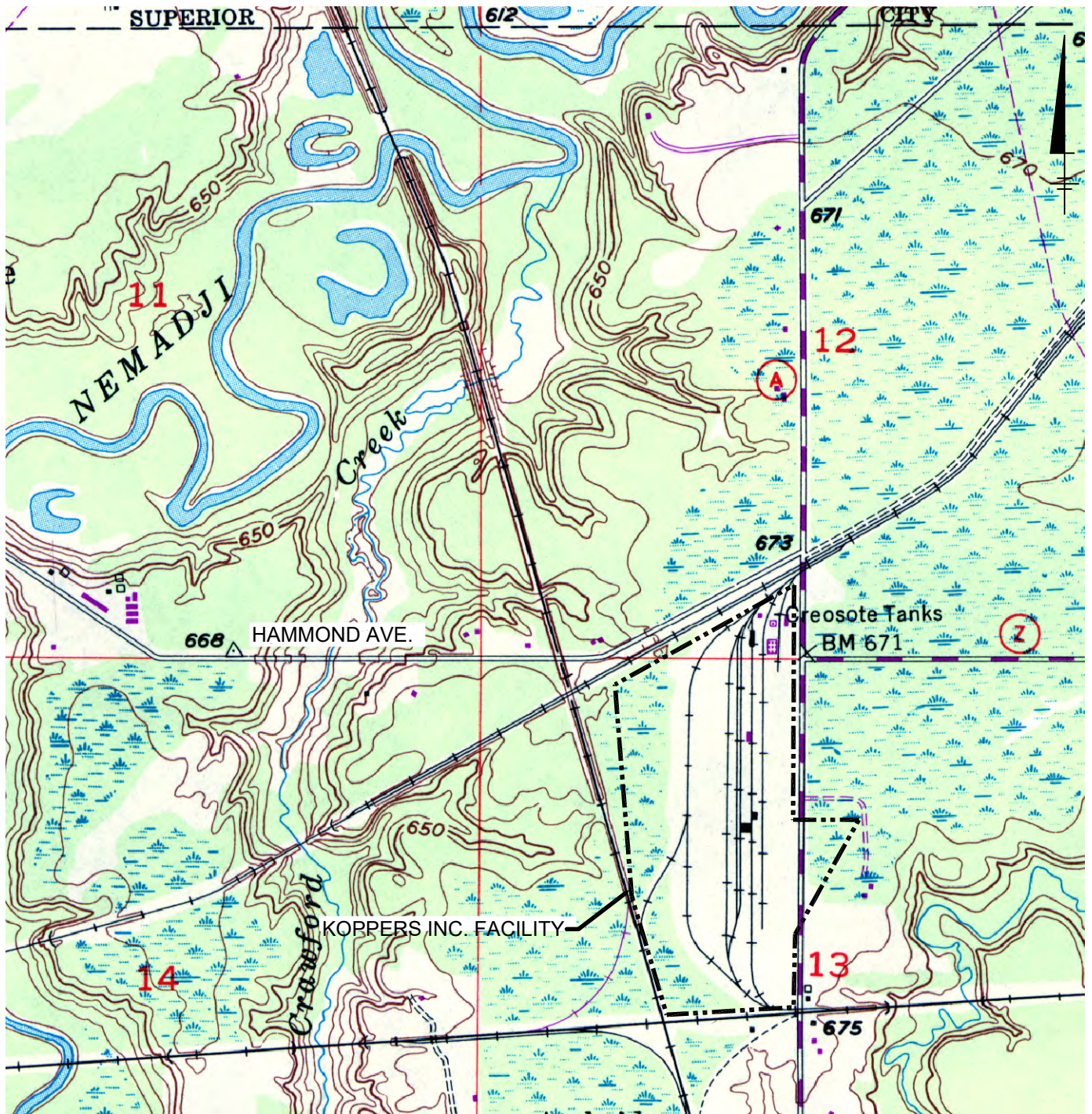
AMEC Earth and Environmental, Inc. 2007. *Post-Remediation Human Health Risk Assessment*. July 2007.

ARCADIS, 2007. *Focused Corrective Measures Study*. July 2007.

ARCADIS, 2009. *On-Property Corrective Measures Implementation Design Report*. December 2009.

## Figures

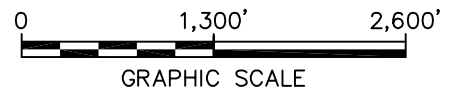
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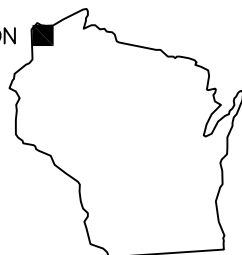
BASE MAP SOURCE: USGS 7.5 MIN TOPO QUAD., SUPERIOR, WIS-MINN., 1954 (PHOTO REVISED 1993)

**LEGEND:**

--- APPROXIMATE PROPERTY BOUNDARY



AREA LOCATION



WISCONSIN

BEAZER EAST, INC.  
 PITTSBURGH, PENNSYLVANIA  
 KOPPERS INC. FACILITY  
 SUPERIOR, WISCONSIN

**KI FACILITY LOCATION MAP**

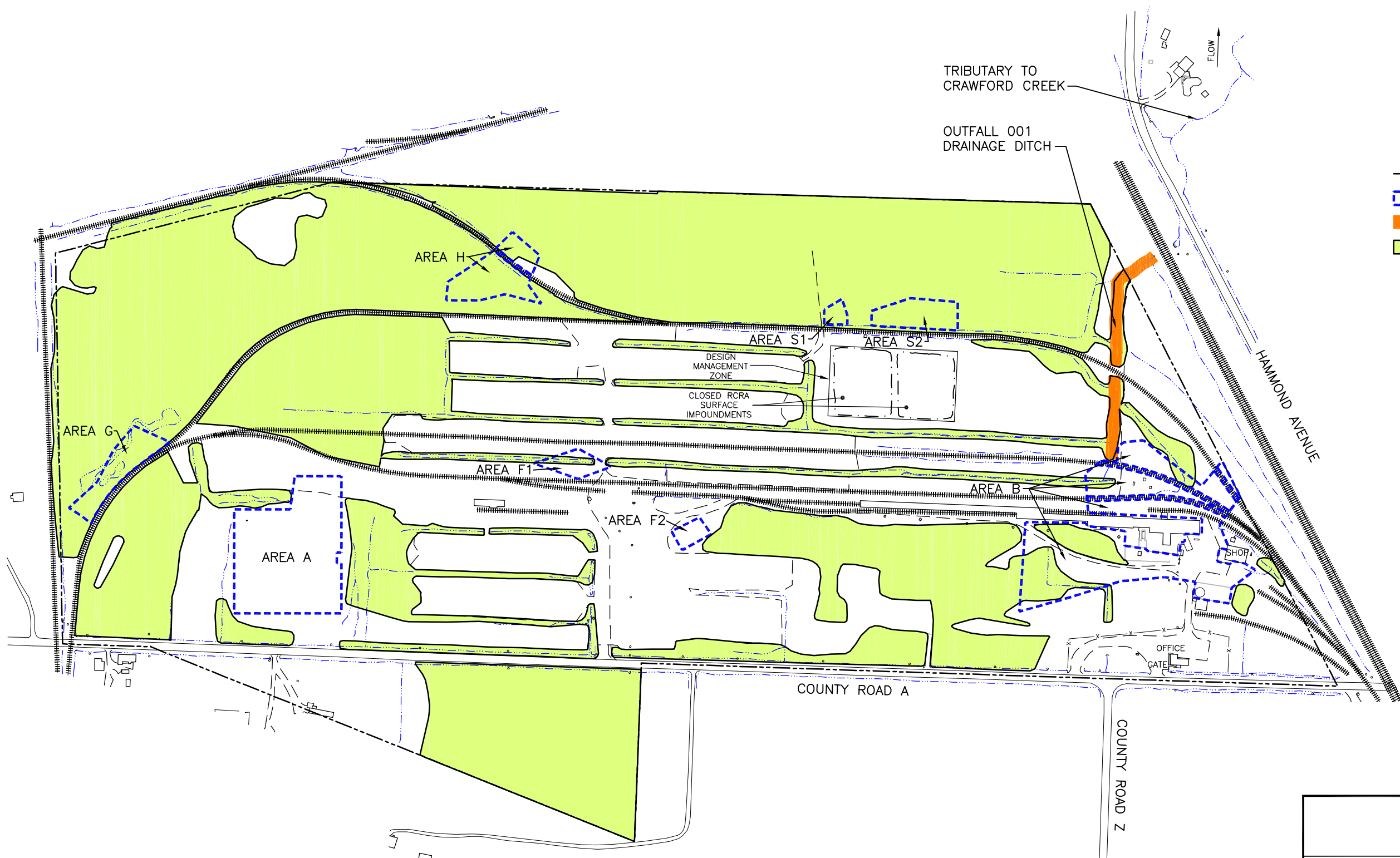


FIGURE

**1**

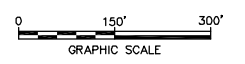


CITY: SYRACUSE, NY DIV: GROUP 3 ENV/CADD DB: L FORAKER, P LISTER PM: J HOLDEN TM: R H EVANKO L: YR: ON: OFF: REF: (FRZ)  
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 XREFS: IMAGES: PROJECTNAME: 39209801



- LEGEND:**
- KOPPERS INC. FACILITY PROPERTY BOUNDARY
  - LIMIT OF 1' SURFACE COVER
  - TARGETED OUTFALL 001 DRAINAGE DITCH CORRECTIVE ACTION AREA
  - WETLAND AREA (SEE NOTE 3)

- NOTES:**
1. BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01).
  2. ALL LOCATIONS ARE APPROXIMATE.
  3. APPROXIMATE WETLAND LOCATIONS BASED ON WETLAND DELINEATION PERFORMED BY ENVIRONMENTAL TROUBLESHOOTERS, INC. OF DULUTH, MN IN 2002 (AND SUBSEQUENT SURVEY BY L.W. SURVEY ENGINEERING & DESIGN COMPANY OF DULUTH, MN), WETLAND DELINEATION PERFORMED BY ENVIRONMENTAL TROUBLESHOOTERS, INC. OF DULUTH, MN IN 2004, AND WETLAND DELINEATION PERFORMED BY ARCADIS BBL IN 2007.



BEAZER EAST, INC. PITTSBURGH, PENNSYLVANIA <b>KOPPERS INC. FACILITY</b> SUPERIOR, WISCONSIN	
<b>KI FACILITY PLAN</b>	
	FIGURE <b>2</b>



## **Appendices**



## **Appendix A**

Field Orders

**Appendix A  
Field Order Summary**

**Koppers Inc. Facility  
Beazer East, Inc.  
Superior, Wisconsin**

<b>Field Order No.</b>	<b>Field Order Description</b>
FO-001	Revised ditch dimensions and quantities
FO-002	Clay Vegetated Surface covers over wetland areas; adjusted road base extents in Area B; installation of soil markers; waived compaction of Area A, F-2 = 90%; concrete tank basin water treatment and filling procedures; leave section of railroad tracks (Area B); drainage ditch survey
FO-003	Woven geotextile (SKAPS W315) and angular stone (5-inch minus shot rock or crushed stone base course) placed to bridge standing water and soft soils in Areas G, H, S-1 and S-2
FO-004	Revised limit of grading in Area B to address pump house
FO-005	Soil cover marker locations
FO-006	Spring 2011 seeding, erosion control matting
FO-007	WWTP (additional change-outs, POTW)

**FIELD ORDER NO. 001, August 4, 2010**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System

**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc.  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following clarifications to the existing Outfall 001 drainage ditch geometry. Any changes in cost or schedule should be noted to Beazer.

As discussed during the June 11, 2010 meeting at Severson's office in Delmont, Pennsylvania, due to high water in the Outfall 001 drainage ditch during the pre-design survey, the surveyor was unable to record the existing channel geometry. The typical on-property channel cross-sections depicted on Contract Drawing C301, which represent the minimum restored channel dimensions required to maintain proper Facility drainage, were used by Severson to determine the necessary quantities of the Outfall 001 drainage ditch restoration materials for their "Gray Book" Project Cost Estimate (Gray Book). Because the channel should not be filled with additional materials to achieve the minimum dimensions shown on Contract Drawing C301, the quantities of Outfall 001 drainage ditch restoration materials included in the Gray Book are potentially less than the actual required restoration material quantities. As an alternative to hiring a surveyor to conduct an additional survey of the Outfall 001 drainage ditch during lower-water conditions so that the restoration material quantities could be verified, Beazer decided to increase the Outfall 001 drainage ditch restoration material quantities by 30%.

During a July 13, 2010 site visit by ARCADIS, it was noted that the Outfall 001 drainage ditch water levels were low and the actual existing channel geometry at three locations was recorded. Photographs of these three transects and the existing channel dimensions are included as Attachment 1. As shown in Attachment 1, the existing channel dimensions, and therefore the restored channel dimensions, are increased from than the typical on-property channel cross-sections depicted on Contract Drawing C301.

**ACTION ITEMS:**

ARCADIS calculated the quantities of all Outfall 001 drainage ditch restoration materials. The following table compares the quantities included on Contract Drawing C100 and the "Estimate Worksheet – Outfall Drainage Ditch Restoration" of the Gray Book with the estimated required quantities based on the existing channel geometry measured on July 13, 2010:

<b>Material</b>	<b>C100 Quantity</b>	<b>"Gray Book" Quantity</b>	<b>Revised Quantity</b>
Pea Gravel	--	390 ton	306 cy <sup>1,2</sup>
Reactive Core Mat	--	1,850 square yards (sy)	2,377 sy <sup>3</sup>
General Fill	--	240 cy	344 cy
Non-Woven Geotextile	--	20,800 square feet (sf)	28,405 sf <sup>3</sup>
R3 Riprap	900 cy	1,170 ton	915 cy <sup>2</sup>

Notes

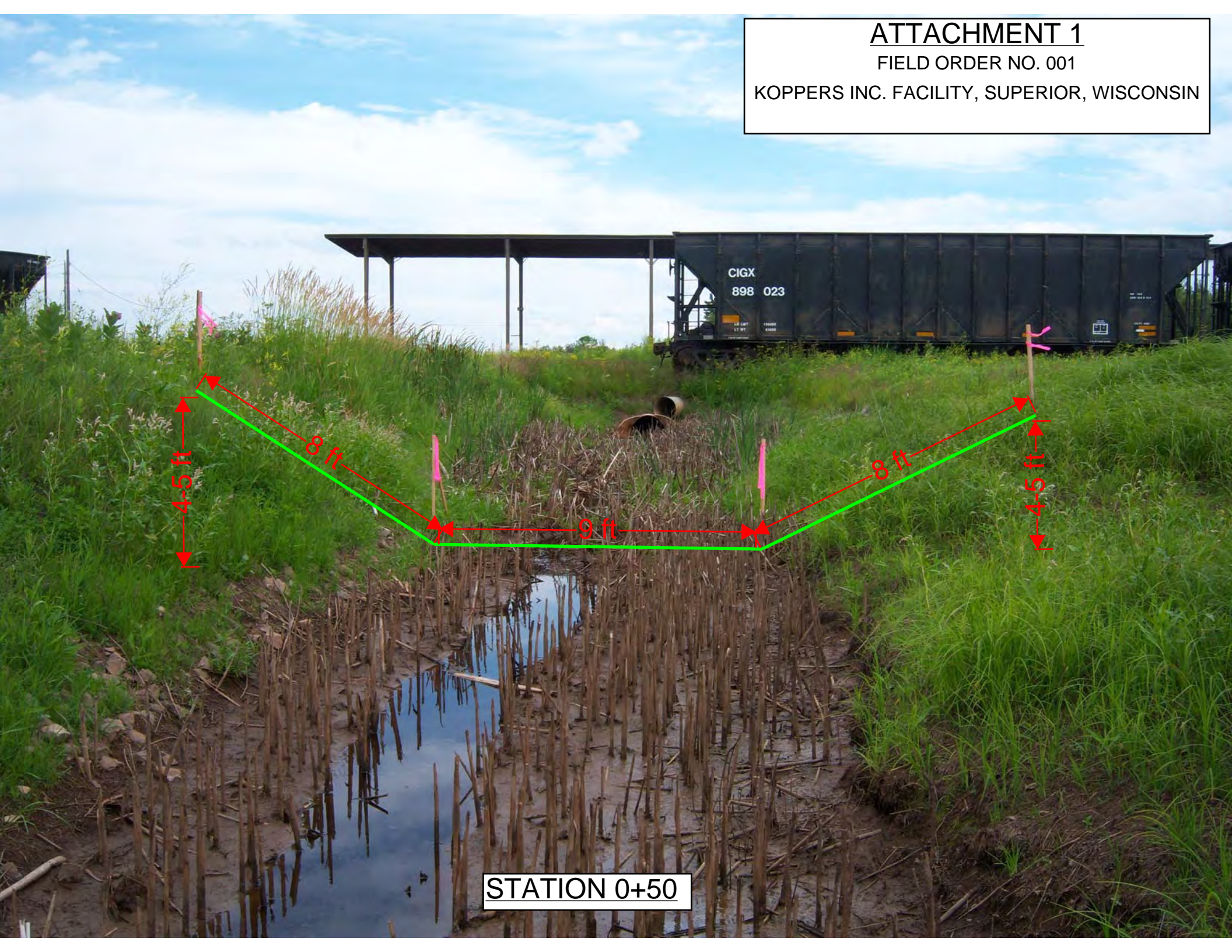
1. Assumes gravel will be installed to within 2' of top of bank on each side.
2. The conversions of volume to weight for stone materials used in the "Gray Book" are not known by ARCADIS.
3. Includes 15% additional material for overlap and waste.

These quantities were shared with Severson on July 19, 2010 following a conference call to discuss the existing channel geometry measured on July 13, 2010 so that additional materials could be ordered in time to not hold up the current construction schedule.

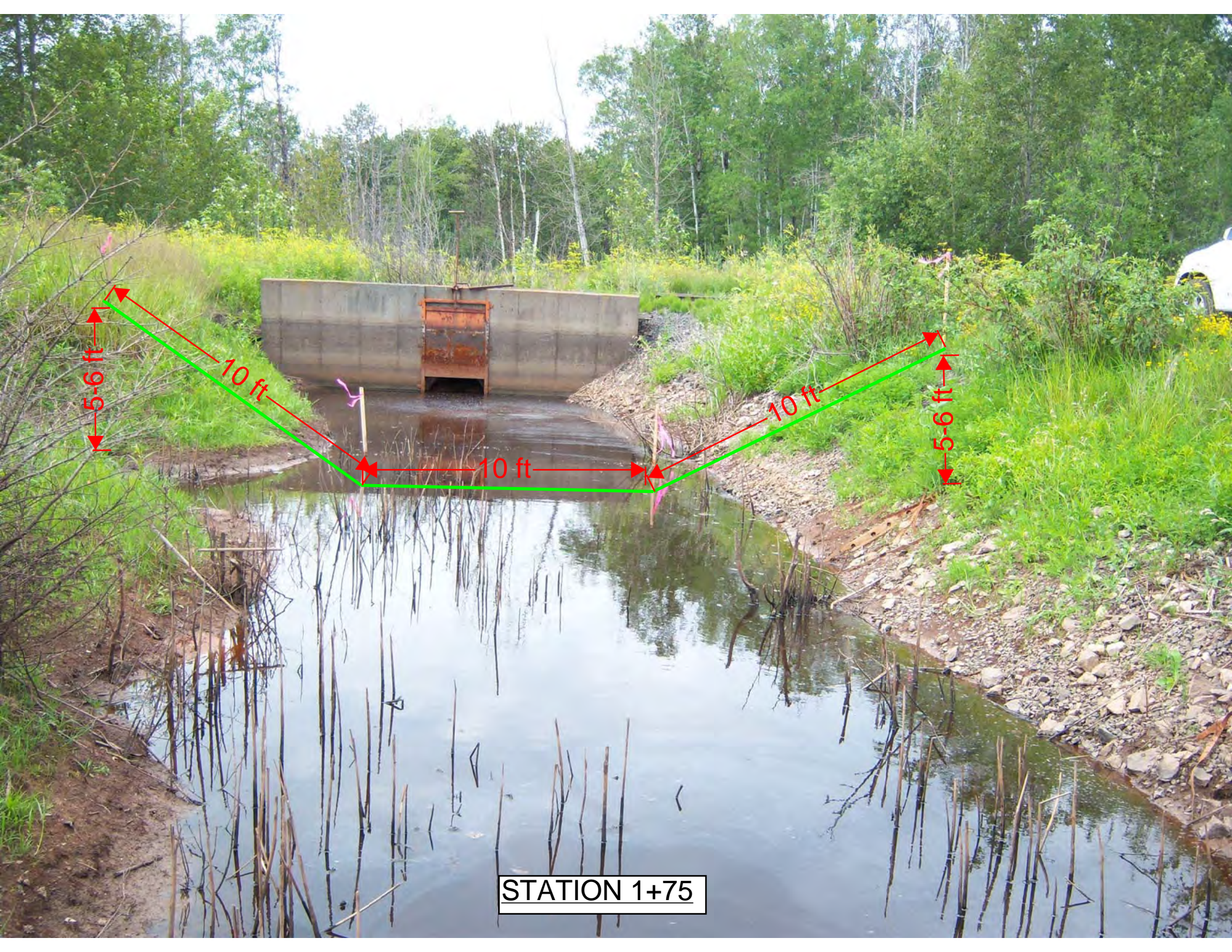
**Submitted By:**           Hillary Evanko, PE          

**Date:**           August 4, 2008

**ATTACHMENT 1**  
FIELD ORDER NO. 001  
KOPPERS INC. FACILITY, SUPERIOR, WISCONSIN



**STATION 0+50**



5-6 ft

10 ft

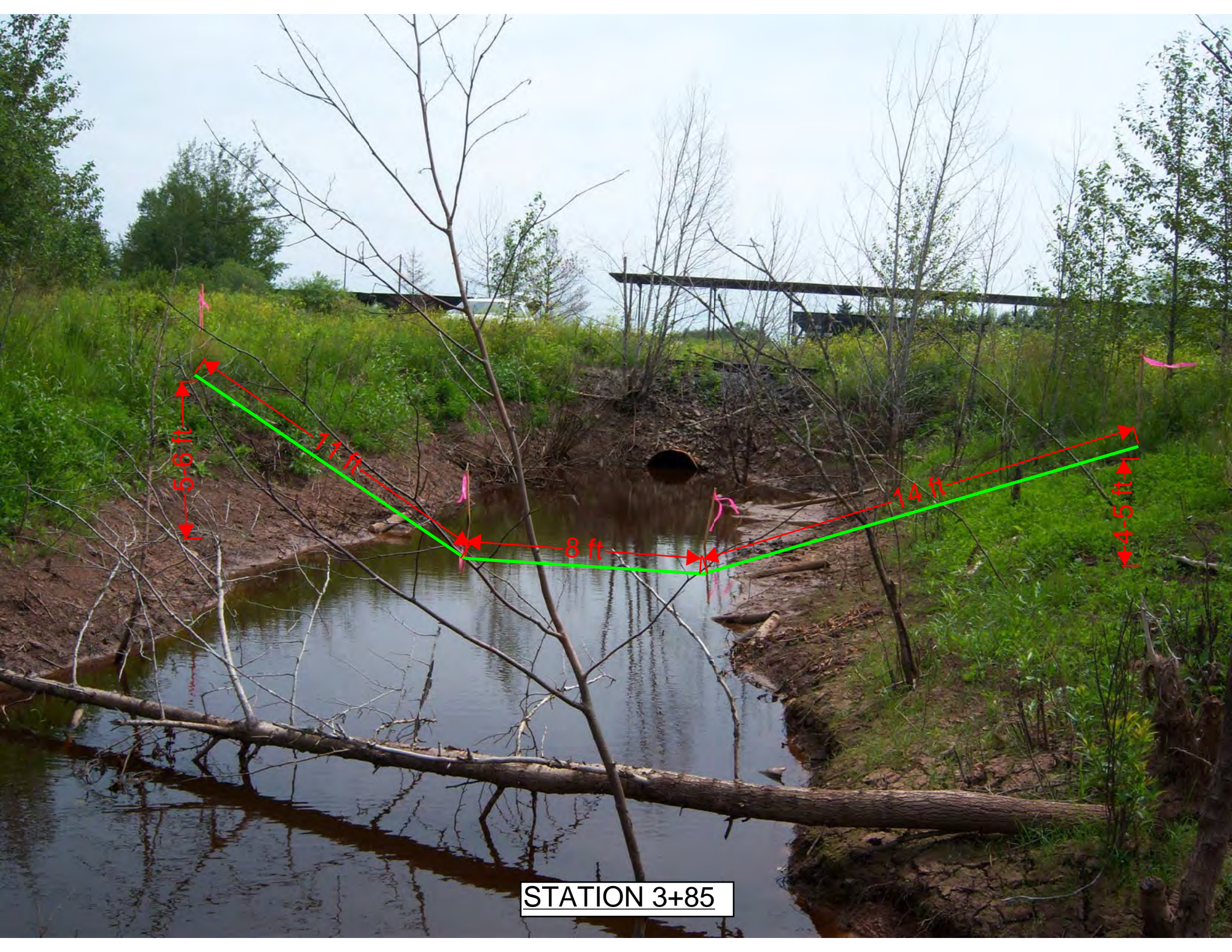
10 ft

10 ft

5-6 ft

STATION 1+75





STATION 3+85

**FIELD ORDER NO. 002, August 18, 2010**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System

**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc.  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS  
Aaron Geyer, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following adjustments to the surface cover design. Any changes in cost or schedule should be noted to Beazer.

**BACKGROUND:**

This Field Order No. 2 has been prepared to address the following items:

1. Because of feedback received from the Wisconsin Department of Natural Resources (WDNR) during their review of the Application for Wetland Water Quality Certification, Vegetated Surface Covers proposed to be installed over existing wetland areas must be constructed using clay fill material. In addition, topsoil must be installed over the clay fill to encourage vegetative growth, and the areas must be seeded with the Board of Water and Soil Resources (BWSR) W2N (34-371) native seed mix (as identified by the United States Army Corps of Engineers [USACE] in their August 9, 2010 permit). Existing wetland areas previously identified to be covered with a Vegetated Surface Cover must be restored as Clay Vegetated Surface Cover. To ensure proper vegetative cover over these Clay Vegetated Surface Covers, these areas will be seeded with the native seed mix at the application rate specified by the USACE and the seed mix identified in the E&SCP (Appendix B of the Project Manual) at one-half of the specified application rate (see Table 1).
2. Based on discussions with Koppers Inc. (Koppers), the Road Base Surface Cover proposed to be installed in the southeastern portion of Area B to match the existing

conditions in that area is not necessary. This area will therefore be restored as a Vegetated Surface Cover.

3. As requested by Koppers during their review of the design package, markers must be installed at all surface cover corners to demarcate the surface cover limits.
4. As discussed during the June 11, 2010 meeting at Severson's office in Delmont, Pennsylvania, compaction requirements will be waived for Area A and the Road Base Surface Cover installed at Area F-2 must be compacted to 90% standard proctor.
5. Based on analytical results of the standing water the existing concrete tank basin (located in the northeast corner of Area B), this water must be treated by the on-site treatment plant prior to discharging. In addition, because the portion of the concrete tank basin that is above the exterior grade is approximately 12-inches tall, the material to be placed in the concrete basin above the exterior grade will be Road Base Gravel (i.e., the Road Base Surface Cover). All drainage from the concrete tank basin will be through the Road Base Gravel and not through the placed subgrade fill material. Therefore, installation of RCM at any drainage points of the concrete tank basin drainage is not necessary and can be achieved by removing a small portion of the northwestern concrete wall.
6. Because a section of railroad tracks in Area B proposed to be abandoned are encased in concrete, this section of tracks not be removed and will instead simply be covered with the proposed Road Base Surface Cover. This section of tracks is noted on Contract Drawing C101 (Attachment 1 of this Field Order).
7. As discussed during the June 11, 2010 meeting at Severson's office in Delmont, Pennsylvania, due to high water in the Outfall 001 drainage ditch during the pre-design survey, the surveyor was unable to record the existing channel geometry. To document pre-construction conditions, following destruction of the downstream beaver dams and allowing the ditch to drain, conduct a topographic survey of the ditch. Ten feet from the top of bank, the top of slope, the middle of slope and the toe of slope will be surveyed on each bank side every 25 feet.

#### **ACTION ITEMS:**

To achieve Items 1 through 5 listed above, Part 1 General, Article 1.2 Summary of Work, Paragraph F Surface Covers of the Project Manual has been revised as follows<sup>1</sup>:

#### **F. Vegetated Surface Covers (Contract Drawings C100 – C206)**

1. Areas G, H, S1 and S2

---

<sup>1</sup> Edits to the May 2010 Project Manual text are shown in red font.

- a. Subgrade Leveling – Proof-roll the surface cover area with a smooth drum or sheepsfoot roller to identify soft areas and provide a level of compaction for the existing grade. If soft areas are identified, treat the soft spots with cement or LKD. Place non-woven geotextile over the prepared subgrade.
- b. Surface Cover Construction – Install **Clay** Vegetated Surface Cover, in accordance with the **revised** Contract Drawings and the **revised** Quality Control Requirements listed in Table 1 (**Attachment 1 of this Field Order**).
- c. Restoration – Seed disturbed vegetated areas in accordance with the **E&SCP (Appendix B)** seed mix identified by the USACE (Table 1 and Attachment 2 of this Field Order). Drive soil marker anchor stakes to permanently remain in place for future surface cover boundary identification at the Surface Cover Limits identified on the Contract Drawings (**Attachment 1 of this Field Order**).

## 2. Areas F-1 and F-2

- a. Subgrade Leveling – Excavate existing soil materials, as indicated on the Contract Drawings (Appendix A of the **Project Manual**). Place excavated material in Area A, as detailed below in Item 4. Proof-roll the surface cover area with a smooth-drum or sheepsfoot roller to identify soft areas and to provide a minimum level of compaction for the existing subgrade. If soft areas are identified, treat the soft spots with cement or LKD. The amount of cement or LKD required for stabilization shall be determined in the field.
- b. Surface Cover Construction – Place geotextile over the prepared subgrade surface and install **Clay** Vegetated Surface Cover and Road Base Surface Cover in accordance with the **revised** Contract Drawings (**Attachment 1 of this Field Order**). Compact fill materials in accordance with Table 1 (**Attachment 1 of this Field Order**).
- c. Restoration – Seed disturbed vegetated areas in accordance with the **E&SCP (Appendix B)** seed mix identified by the USACE (Table 1 and Attachment 2 of this Field Order). Drive soil marker anchor stakes to permanently remain in place for future surface cover boundary identification at the Surface Cover Limits identified on the Contract Drawings (**Attachment 1 of this Field Order**).

## 3. Area B

- a. Concrete Tank Basin Preparation – Prepare the existing concrete tank basin (located in the northeast corner of Area B) to accept fill material. **Cut or drill 4-inch diameter weep holes into the concrete floor of the basin at**

~~approximately 10-foot centers.~~ Pump ~~any remaining~~ water ~~following perforation of the floor out of the basin out of the structure~~ and containerize for ~~off-Site treatment/disposal, or treatment/discharge~~ at the Facility ~~using the temporary on-site treatment plant~~ in accordance with the WPDES Wastewater Discharge General Permit for Contaminated Groundwater from Remedial Action Operations. ~~Demolish the northwestern corner of the concrete wall as shown on the Contract Drawings (Attachment 1 of this Field Order).~~ ~~Install RCM on the floor of the basin covering all weep holes.~~ Line the bottom and ~~four~~ remaining walls of the inside of the concrete tank basin with non-woven geotextile.

- b. Subgrade Leveling – Prepare subgrade as indicated on the Contract Drawings (Appendix A ~~of the Project Manual~~).

Place cut material from the eastern portion of Area B where cut is required to achieve final grades (along the roadways and near the Shop) in maximum 10-inch-thick loose lifts and compact in accordance with ~~revised~~ Table 1 (~~Attachment 1 of this Field Order~~) in concrete tank basin and fill areas within Area B to 1-foot below final grades, as indicated on Contract Drawing C200 and C201. After using available fill volume in concrete tank basin and Area B fill areas, place remaining cut material in Area A as detailed below in Item 4.

Proof-roll the surface cover area with a smooth drum or sheepsfoot roller to identify soft areas and provide a level of compaction for the existing grade. If soft areas are identified, treat the soft spots with cement or LKD. Place non-woven geotextile over the prepared subgrade.

- c. Surface Cover Construction – Install Vegetated Surface Cover, ~~Clay Vegetated Surface Cover~~ and Road Base Surface Cover in accordance with the ~~revised~~ Contract Drawings, and compact in accordance with ~~revised~~ Table 1 (~~Attachment 1 of this Field Order~~).
- d. Restoration – Seed disturbed ~~vegetated~~ ~~Vegetated Surface Cover~~ areas in accordance with the E&SCP (Appendix B ~~of the Project Manual~~). ~~Seed disturbed Clay Vegetated Surface Cover areas in accordance with the seed mix identified by the USACE (Table 1 and Attachment 2 of this Field Order).~~ Drive soil marker anchor stakes to permanently remain in place for future surface cover boundary identification at the Surface Cover Limits identified on the Contract Drawings (~~Attachment 1 of this Field Order~~).

#### 4. Area A

- a. Subgrade Leveling – Proof-roll the surface cover area with a smooth drum or sheepsfoot roller to identify soft areas and provide a minimum level of

compaction for the existing subgrade. When soft areas are identified, treat the soft spots with cement or LKD.

Place cut material from Areas B, F-1 and F-2 and the Outfall 001 drainage ditch in maximum 10-inch-thick loose lifts and compact in accordance with revised Table 1 (Attachment 1 of this Field Order). Place non-woven geotextile over the prepared subgrade fill consisting of cut material from Areas B, F-1 and F-2 and the Outfall 001 drainage ditch.

- b. Surface Cover Construction – Install Vegetated Surface Cover in accordance with the Contract Drawings and compact in accordance with Table 1.
- c. Restoration – Seed disturbed areas in accordance with the E&SCP (Appendix B). Drive soil marker anchor stakes to permanently remain in place for future surface cover boundary identification at the Surface Cover Limits identified on the Contract Drawings (Attachment 1 of this Field Order).

The products identified in this field order that are not already identified in the Project Manual shall adhere to the following specifications:

#### **SOIL MATERIALS**

- A. Clay General Fill shall be clay borrow material from a virgin source approved by Beazer and will be free of clumps, rock or gravel larger than 6 inches in any dimension, debris, waste, frozen materials, organic matter or any other deleterious materials. Clay General Fill shall have a Unified Soil Classification System (USCS) group symbol of CL or ML-CL.
- B. Topsoil shall be from a virgin source approved by Beazer, and sandy/silty loam material free of large rocks, wood and other deleterious debris and adapted to sustain plant life.

#### **SOIL MARKERS**

- A. Soil Marker™ anchor stakes (by Rhino), or equivalent soil markers.

A revised Table 2 - Contractor Submittal Register, which includes these additional products and the Board of Water and Soil Resources (BWSR) W2N (34-371) native seed mix is included in Attachment 1 of this Field Order.

**Submitted By:** Hillary Evanko, PE

**Date:** August 18, 2010

**Table 1 – Clay Vegetated Surface Cover Seed Mix**

Use BWSR W2N (34-371) native seed mix (as identified by the USACE, Attachment 2 of this Field Order) at the specified application rate.

Additionally use the following:

	<b>Seed-Specific Application Rate (lb/1000 ft<sup>2</sup>)</b>	<b>Seed-Specific Application Rate (lb/acre)</b>	<b>Seed Mix (%)</b>	<b>Mix Application Rate (lb/acre)</b>
Rough bluegrass	0.63	28	20%	6
Fine fescues <sup>1</sup>	2	88	35%	31
Kentucky bluegrass	0.63	28	35%	10
Perennial ryegrass	4	175	10%	18
			<b>100%</b>	<b>63</b>

**Attachment 1**

Revised Table 1 - Quality Control Requirements and Contract Drawings



TABLE 1  
QUALITY CONTROL REQUIREMENTS  
ON-PROPERTY CORRECTIVE MEASURES PROJECT MANUAL  
KOPPERS INC. FACILITY  
SUPERIOR, WI

Work Item	Standard	Q/C Activity
Surface Cover Installation	Conform to requirements in Part 1, Section 1.5 (F) of <del>Design Report</del> Project Manual	<p><del>Wetland Restoration Surface Covers (Areas B, F1, H, S1, S2) and Area F2 – Engineer's Representative to observe placement of surface cover and recommend activities as necessary to achieve acceptable compaction as determined by the Engineer.</del></p> <p><del>Area A and</del> Area B - Vegetated Surface Covers - 10-inch maximum loose lifts. Compact the backfill to 90% standard proctor maximum dry density (ASTM D698). Perform the following in-situ density tests using a nuclear density gauge (ASTM D2922): <del>4 on subgrade fill in Area A; 4 on final cover in Area A;</del> 3 on subgrade fill in Area B; and 3 on final cover in Area B.</p> <p>Area B <del>and</del> F1, and F2 - Road Base Surface Covers - 8-inch maximum loose lifts. Compact the backfill to 90% standard proctor maximum dry density (ASTM D698). Perform the following in-situ density tests using a nuclear density gauge (ASTM D2922): 8 on subgrade fill in Area B; 8 on final cover in Area B; and 2 on final cover in Areas F1 and F2.</p> <p>Area A - Engineer's Representative to observe placement of subgrade fill and surface cover and recommend activities as necessary to achieve acceptable compaction as determined by the Engineer.</p>
	Surface Cover Thickness	Engineer's Representative to inspect subgrade and approve method used to verify 1-foot cover thickness (i.e., marked survey stakes or 50-ft grid survey of subgrade and final grade, etc.).
General Fill	Conform to requirements in Part 2, Section 2.3 of <del>Design Report</del> Project Manual	<p>Resident Project Representative to examine general fill delivered to site to confirm Contractor Submittal.</p> <p>Test General Fill by collecting <del>3</del> 6 representative samples from the source for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) by USEPA SW 846 Methods 8260 and 8270, respectively prior to delivery onsite. Constituent levels shall not exceed current published Wisconsin soil cleanup values for benzene, ethylbenzene, toluene and xylenes (BTEX) and 1,2-dichloroethane (Residual Contaminant Levels, Table 1, Wisconsin Administrative Code Chapter NR 720 – Soil Clean-up Standards [NR 720]) and polycyclic aromatic hydrocarbons (PAHs) (Direct Contact Pathway - Industrial, Table 1, Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons [PAHs] – Interim Guidance, April 1999 [WDNR PAH Guidance]).</p>
General Fill	Conform to requirements in Field Order No. 2	<p><del>Resident Project Representative to examine clay general fill delivered to site to confirm Contractor Submittal.</del></p> <p>Test General Fill by collecting 3 representative samples from the source for VOCs and SVOCs by USEPA SW 846 Methods 8260 and 8270, respectively prior to delivery onsite. Constituent levels shall not exceed current published Wisconsin soil cleanup values for BTEX and 1,2-dichloroethane (Residual Contaminant Levels, Table 1, Wisconsin Administrative Code Chapter NR 720 – Soil Clean-up Standards [NR 720]) and PAHs (Direct Contact Pathway - Industrial, Table 1, Soil Cleanup Levels for PAHs – Interim Guidance, April 1999 [WDNR PAH Guidance]).</p>

**TABLE 1**  
**QUALITY CONTROL REQUIREMENTS**  
**ON-PROPERTY CORRECTIVE MEASURES PROJECT MANUAL**  
**KOPPERS INC. FACILITY**  
**SUPERIOR, WI**

Work Item	Standard	Q/C Activity
Topsoil	Conform to requirements in Field Order No. 2	Resident Project Representative to examine topsoil delivered to site to confirm Contractor Submittal.  Test topsoil by collecting 1 representative sample from the source for VOCs and SVOCs by USEPA SW 846 Methods 8260 and 8270, respectively prior to delivery onsite. Constituent levels shall not exceed current published Wisconsin soil cleanup values for BTEX and 1,2-dichloroethane (Residual Contaminant Levels, Table 1, Wisconsin Administrative Code Chapter NR 720 – Soil Clean-up Standards [NR 720]) and PAHs (Direct Contact Pathway - Industrial, Table 1, Soil Cleanup Levels for PAHs – Interim Guidance, April 1999 [WDNR PAH Guidance]).
Stone for Stone Tracking Pad	Delivered stone shall meet the specification values listed in Part 2, Section 2.2 of the Design Report	Resident Project Representative to examine stone delivered to site to confirm Contractor Submittal.
Road-Base Gravel	Delivered stone shall meet the specification values listed in Part 2, Section 2.2 of the Design Report	Resident Project Representative to examine gravel delivered to site to confirm Contractor Submittal.
Washed Pea Gravel	Delivered stone shall meet the specification values listed in Part 2, Section 2.2 of the Design Report	Resident Project Representative to examine gravel delivered to site to confirm Contractor Submittal.
R-3 Rip-Rap	Delivered rip-rap shall meet the specification values listed in Part 2, Section 2.2 of the Design Report	Resident Project Representative to examine rip-rap delivered to site to confirm Contractor Submittal.
Gabion Mattress Stone	Delivered rip-rap shall meet the specification values listed in Part 2, Section 2.2 of the Design Report	Resident Project Representative to examine stone delivered to site to confirm Contractor Submittal.
Stone for Taper Layers	Delivered rip-rap shall meet the specification values listed in Part 2, Section 2.2 of the Design Report	Resident Project Representative to examine stone delivered to site to confirm Contractor Submittal.
Non-Woven Geotextile	Delivered fabric shall meet the specification values listed in Part 2, Section 2.3 of the Design Report	Resident Project Representative to examine geotextile delivered to site to confirm Contractor Submittal.
Woven Geotextile	Delivered fabric shall meet the specification values listed in Part 2, Section 2.3 of the Design Report	Resident Project Representative to examine geotextile delivered to site to confirm Contractor Submittal.
Reactive Core Mat (RCM)	RCM shall meet the specification values listed in Part 2, Section 2.4 of the Design Report	Resident Project Representative to examine RCM delivered to site to confirm Contractor Submittal.
Bulk Organoclay	RCM shall meet the specification values listed in Part 2, Section 2.4 of the Design Report	Resident Project Representative to examine organoclay delivered to site to confirm Contractor Submittal.

**Notes:**

ASTM - American Society for Testing and Materials

**TABLE 2  
CONTRACTOR SUBMITTAL REGISTER**

**REVISED 8-18-10  
FIELD ORDER NO. 2**

**ON-PROPERTY CORRECTIVE MEASURES PROJECT MANUAL  
KOPPERS INC. FACILITY  
SUPERIOR, WI**

<b>Item No.</b>	<b>Submittal Description</b>	<b>Submittal Timeline</b>	<b>Date Received</b>	<b>Status/Date (see Note 1)</b>	<b>Notes</b>
1a	General Fill - Name of Supplier, Gradation and Results of Chemical Analysis	Submit 2 weeks prior to material placement			
1b	Clay General Fill - Name of Supplier, Gradation and Results of Chemical Analysis	Submit 2 weeks prior to material placement			
1c	Topsoil - Name of Supplier and Results of Chemical Analysis	Submit 2 weeks prior to material placement			
2	Stone for Stone Tracking Pad - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
3	Road Base Gravel - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
4	Washed Pea Gravel - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
5	Gabion Mattress Stone - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
6	Stone for Taper Layers - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
7	Non-Woven Geotextile - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
8	Woven Geotextile - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
9	Reactive Core Mat - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
10	Organoclay - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
11	Native Seed Mix - Copy of the seed tag	Submit 2 weeks prior to seeding			
12	Soil Markers - Manufacturer's Product Information	Submit 2 weeks prior to installation			

**Notes:**

1. Submittal Process:

- Contractor provides Transmittal of Submittal and acknowledges Contractor's review.
- ARCADIS reviews submittal and provides following actions:

APPROVED

REVISE AND RESUBMIT BEFORE PROCEEDING

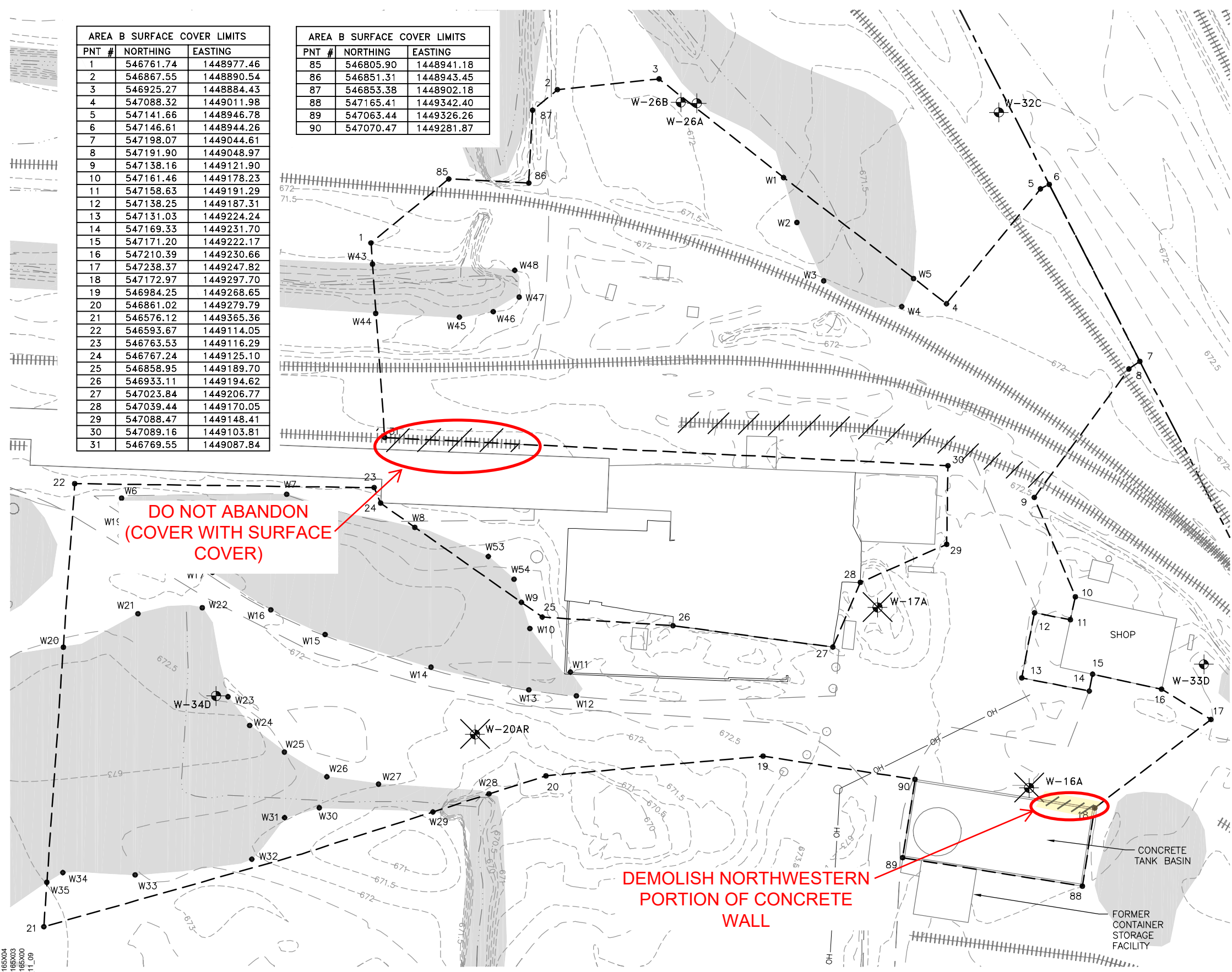
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NOT APPROVED

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AREA B SURFACE COVER LIMITS		
PNT #	NORTHING	EASTING
1	546761.74	1448977.46
2	546867.55	1448890.54
3	546925.27	1448884.43
4	547088.32	1449011.98
5	547141.66	1448946.78
6	547146.61	1448944.26
7	547198.07	1449044.61
8	547191.90	1449048.97
9	547138.16	1449121.90
10	547161.46	1449178.23
11	547158.63	1449191.29
12	547138.25	1449187.31
13	547131.03	1449224.24
14	547169.33	1449231.70
15	547171.20	1449222.17
16	547210.39	1449230.66
17	547238.37	1449247.82
18	547172.97	1449297.70
19	546984.25	1449268.65
20	546861.02	1449279.79
21	546576.12	1449365.36
22	546593.67	1449114.05
23	546763.53	1449116.29
24	546767.24	1449125.10
25	546858.95	1449189.70
26	546933.11	1449194.62
27	547023.84	1449206.77
28	547039.44	1449170.05
29	547088.47	1449148.41
30	547089.16	1449103.81
31	546769.55	1449087.84

AREA B SURFACE COVER LIMITS		
PNT #	NORTHING	EASTING
85	546805.90	1448941.18
86	546851.31	1448943.45
87	546853.38	1448902.18
88	547165.41	1449342.40
89	547063.44	1449326.26
90	547070.47	1449281.87



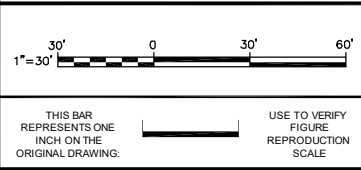
**LEGEND:**

- MONITORING WELL
- KOPPERS INC. FACILITY PROPERTY BOUNDARY
- LIMIT OF 1' SURFACE COVER
- WETLAND AREA
- WATER COURSE
- OVERHEAD POWER LINE (APPROXIMATE)
- EXISTING CONTOUR
- EXISTING RAILROAD LINE
- EXISTING GRAVEL ACCESS ROAD
- REMOVE
- ABANDON
- SURFACE COVER LIMIT

- NOTE:**
- EXISTING STRUCTURES AND MONITORING WELLS NOT IDENTIFIED FOR DEMOLITION OR ABANDONMENT MUST BE PROTECTED THROUGHOUT CONSTRUCTION.
  - ELEVATION DATA REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

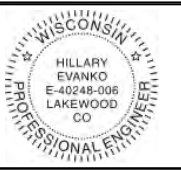
WETLAND BOUNDARIES		
PNT #	NORTHING	EASTING
W1	546995.86	1448940.38
W2	547003.45	1448965.88
W3	547018.60	1448998.99
W4	547062.96	1449013.58
W5	547069.66	1448997.71
W6	546620.19	1449122.24
W7	546713.89	1449120.00
W8	546786.67	1449138.81
W9	546847.10	1449181.35
W10	546851.93	1449196.27
W11	546874.94	1449220.95
W12	546878.30	1449234.41
W13	546851.37	1449231.05
W14	546795.82	1449218.15
W15	546733.36	1449199.64
W16	546704.92	1449185.62
W17	546671.81	1449164.31
W18	546633.65	1449138.51
W19	546620.19	1449130.66
W20	546587.17	1449206.81
W21	546629.53	1449187.80
W22	546666.00	1449184.44
W23	546680.59	1449234.92
W24	546692.93	1449251.18

WETLAND BOUNDARIES		
PNT #	NORTHING	EASTING
W25	546712.57	1449266.32
W26	546736.70	1449280.34
W27	546766.07	1449284.48
W28	546828.72	1449290.05
W29	546796.90	1449300.28
W30	546732.40	1449297.94
W31	546712.76	1449303.55
W32	546694.16	1449327.09
W33	546627.94	1449336.03
W34	546586.89	1449334.70
W35	546577.86	1449340.16
W43	546762.60	1448989.48
W44	546764.45	1449017.44
W45	546811.96	1449019.59
W46	546831.16	1449016.47
W47	546845.83	1449008.21
W48	546843.35	1448993.02
W49	546817.19	1448932.12
W50	546827.97	1448941.15
W51	546838.64	1448937.22
W52	546851.33	1448903.88
W53	546828.36	1449155.33
W54	546842.95	1449168.23



No.	Date	Revisions	By	Ckd
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name  
**HILLARY EVANKO**  
Professional Engineer's No.  
40248-006  
State  
Date Signed  
Project Mgr.

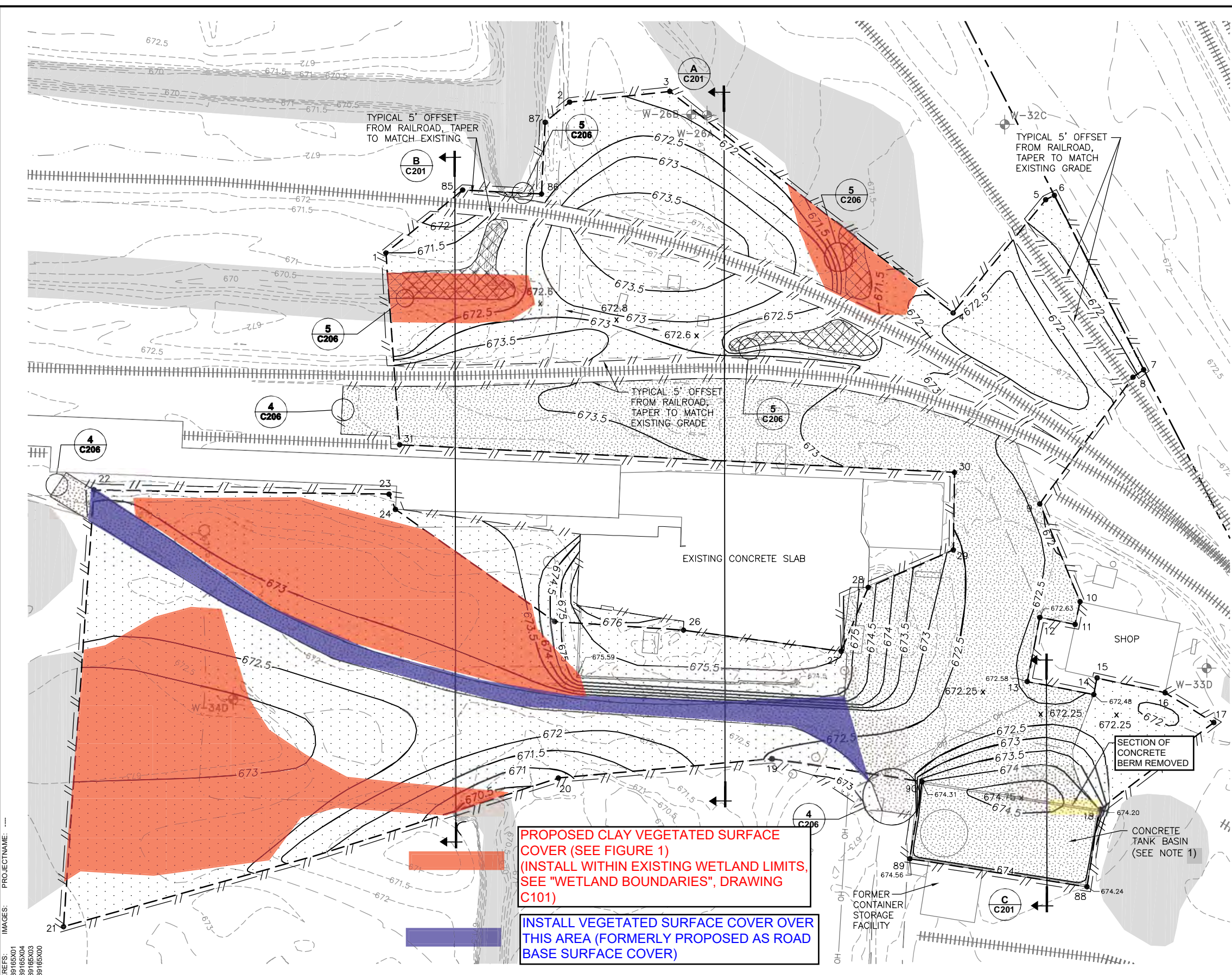


KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**EXISTING PLAN, WETLAND BOUNDARIES AND PROPOSED SURFACE COVER LIMITS - AREA B**

ARCADIS Project No. B0039165  
Date DECEMBER 2009  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**C101**

CITY: DIV/GROUP: DB: LD: PIC: PM: T.M: LYRON="OFF=REF" G:\ENVCAD\HOU\STON\ACT\B0039165\00000003\3D\MG\39165\C200\_C202\_C204\_C205.DWG LAYOUT: C200\_SAVED\_4/21/2010 4:16 PM ACADVER: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PLOTSETUP: PLOTSTYLETABLE: PLOTTED: 4/30/2010 10:30 AM BY: INNIS, HAYDEN



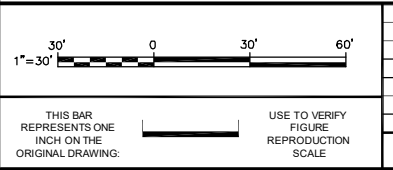
**LEGEND:**

- MONITORING WELL
- KOPPERS INC. FACILITY PROPERTY BOUNDARY
- LIMIT OF 1' SURFACE COVER
- WETLAND AREA
- WATER COURSE
- OVERHEAD POWER LINE (APPROXIMATE)
- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING RAILROAD LINES
- EXISTING GRAVEL ACCESS ROAD
- PROPOSED LIMITS OF GRADING
- PROPOSED ELEVATION CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206) - MATCH EXISTING GRADE (SEE NOTE 2)
- PROPOSED ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING C206)
- SURFACE COVER LIMIT (SEE DRAWING C101)
- CROSS-SECTION/DETAIL
- SHEET NUMBER

- NOTES:**
1. PREPARE AND LINE CONCRETE TANK BASIN AS DESCRIBED IN DESIGN REPORT PRIOR TO BACKFILLING.
  2. MATCH FINAL VEGETATED SURFACE COVER GRADES TO EXISTING GRADES AT DITCHES. EXCAVATE AND FILL AS NECESSARY TO PROTECT EXISTING CULVERTS AT WATER COURSE RAILROAD CROSSINGS.

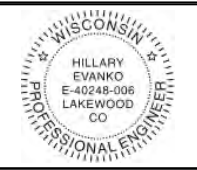
**PROPOSED CLAY VEGETATED SURFACE COVER (SEE FIGURE 1) (INSTALL WITHIN EXISTING WETLAND LIMITS, SEE "WETLAND BOUNDARIES", DRAWING C-101)**

**INSTALL VEGETATED SURFACE COVER OVER THIS AREA (FORMERLY PROPOSED AS ROAD BASE SURFACE COVER)**



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D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name  
**HILLARY EVANKO**  
Professional Engineer's No.  
40248-006  
State  
Date Signed  
Project Mgr.



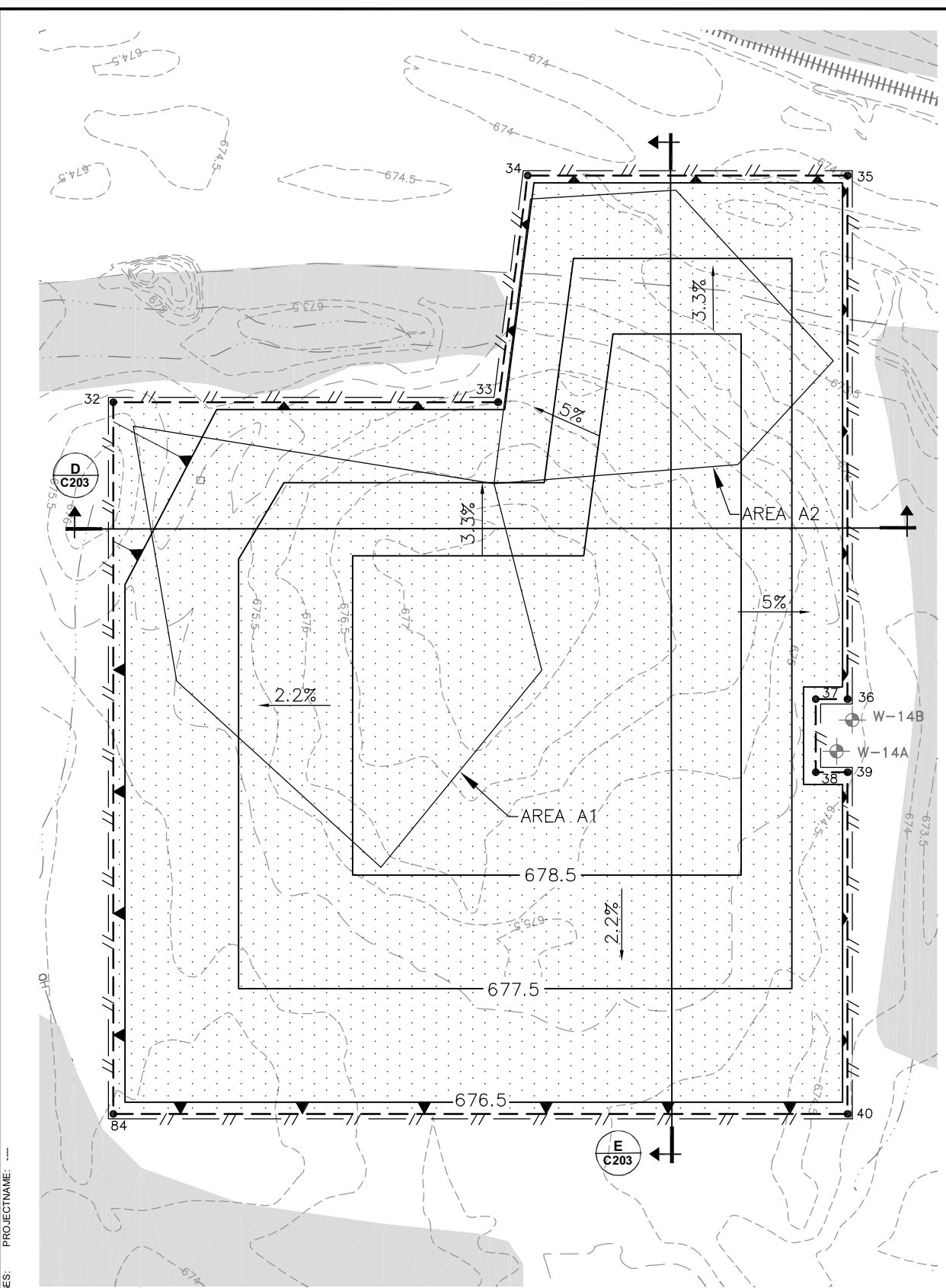
KOPPERS INC. FACILITY, BEAZER EAST INC. • SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

**FINAL GRADING PLAN - AREA B**

ARCADIS Project No.  
B0039165  
Date  
DECEMBER 2009  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 900  
HOUSTON, TX 77042  
713-953-4800

**C200**

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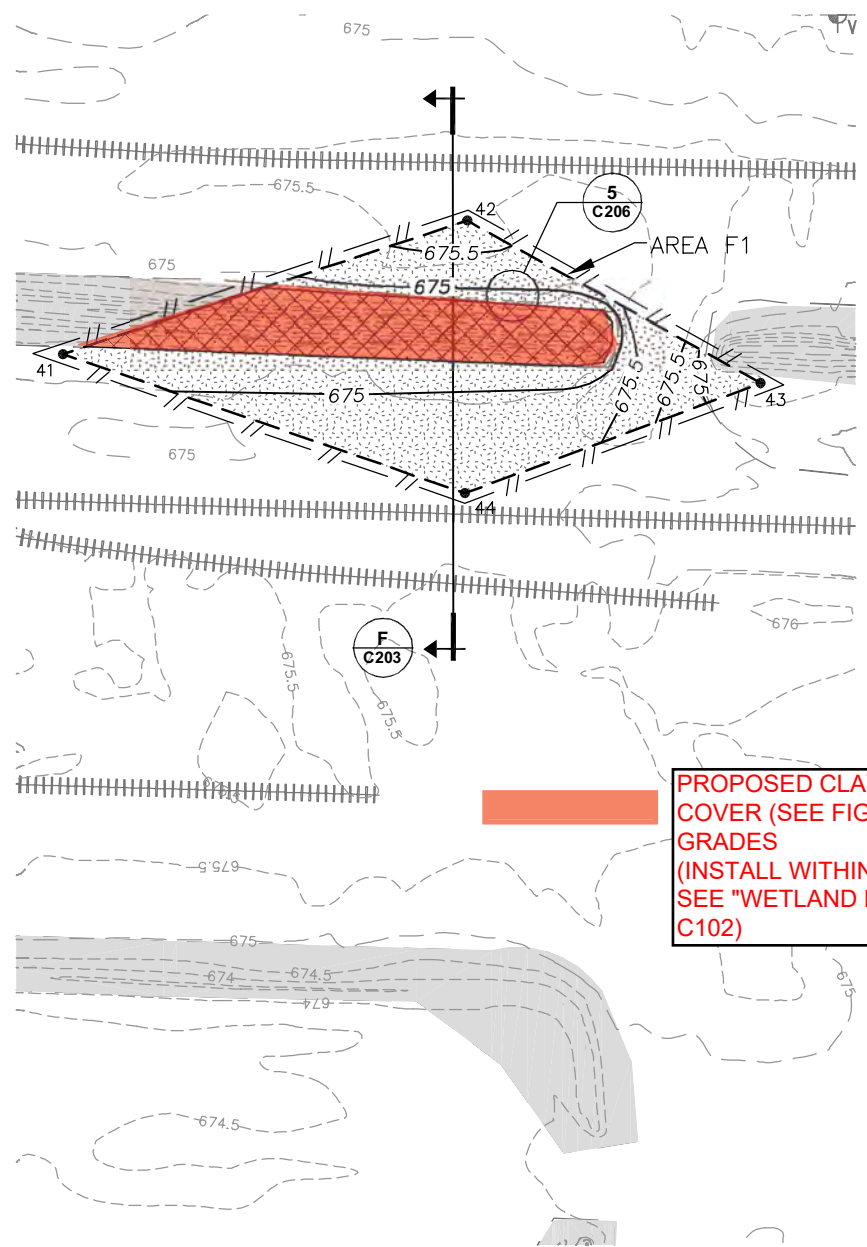
**AREAS A1 & A2**  
SCALE: 1" = 30'

**NOTES:**

1. PROPOSED CONTOURS IN AREA A ARE EXPECTED FINAL GRADE CONTOURS. ACTUAL CONTOURS WILL BE BASED ON THE SUBGRADE FILL GENERATED FROM OTHER CORRECTIVE ACTION AREAS. A MINIMUM SLOPE OF 2% WILL BE MAINTAINED TO PROMOTE DRAINAGE.
2. MATCH FINAL VEGETATED SURFACE COVER GRADES TO EXISTING GRADES AT DITCHES. EXCAVATE AND FILL AS NECESSARY TO PROTECT EXISTING CULVERTS AT WATER COURSE CROSSINGS.

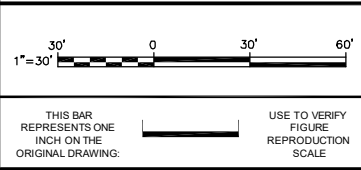
**LEGEND:**

- MONITORING WELL
- LIMIT OF 1' SURFACE COVER
- WETLAND AREA
- WATER COURSE
- OVERHEAD POWER LINE (APPROXIMATE)
- EXISTING CONTOUR
- EXISTING RAILROAD LINES
- EXISTING GRAVEL ACCESS ROAD
- PROPOSED LIMITS OF GRADING
- PROPOSED ELEVATION CONTOUR
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206) - MATCH EXISTING GRADE (SEE NOTE 2)
- PROPOSED ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING C206)
- SURFACE COVER LIMIT/LIMIT OF GRADING (SEE DRAWING C102)
- CROSS-SECTION/DETAIL
- SHEET NUMBER



**PROPOSED CLAY VEGETATED SURFACE COVER (SEE FIGURE 1) - MATCH EXISTING GRADES (INSTALL WITHIN EXISTING WETLAND LIMITS, SEE "WETLAND BOUNDARIES", DRAWING C102)**

**AREA F1 & F2**  
SCALE: 1" = 30'



No.	Date	Revisions	By	Ckd
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name <b>HILLARY EVANKO</b>		
Professional Engineer's No. 40248-006		
State	Date Signed	Project Mgr.
WI		
Designed by HME	Drawn by HSI	Checked by TEH



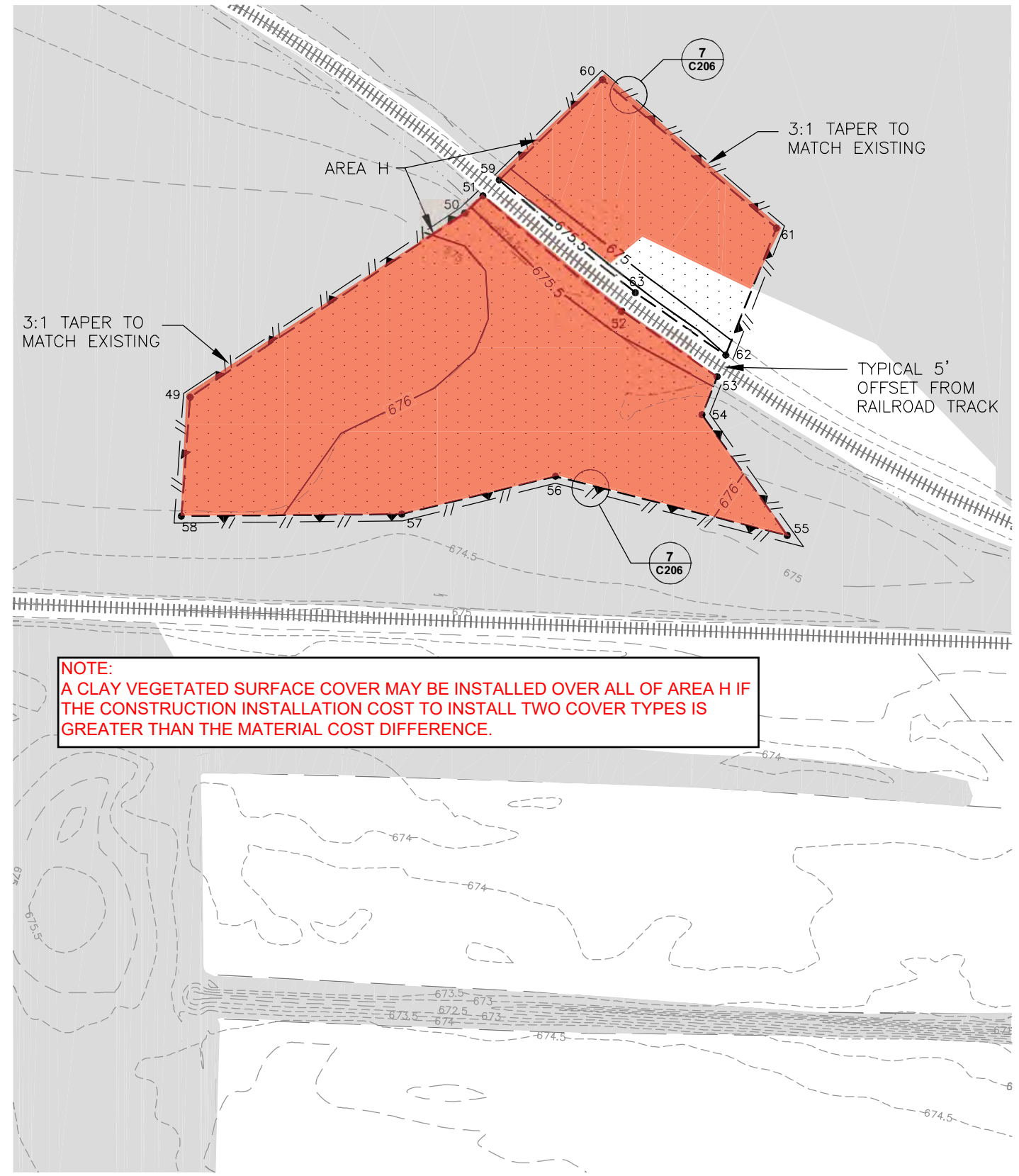
KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

**FINAL GRADING PLAN - AREAS A1, A2, F1 & F2**

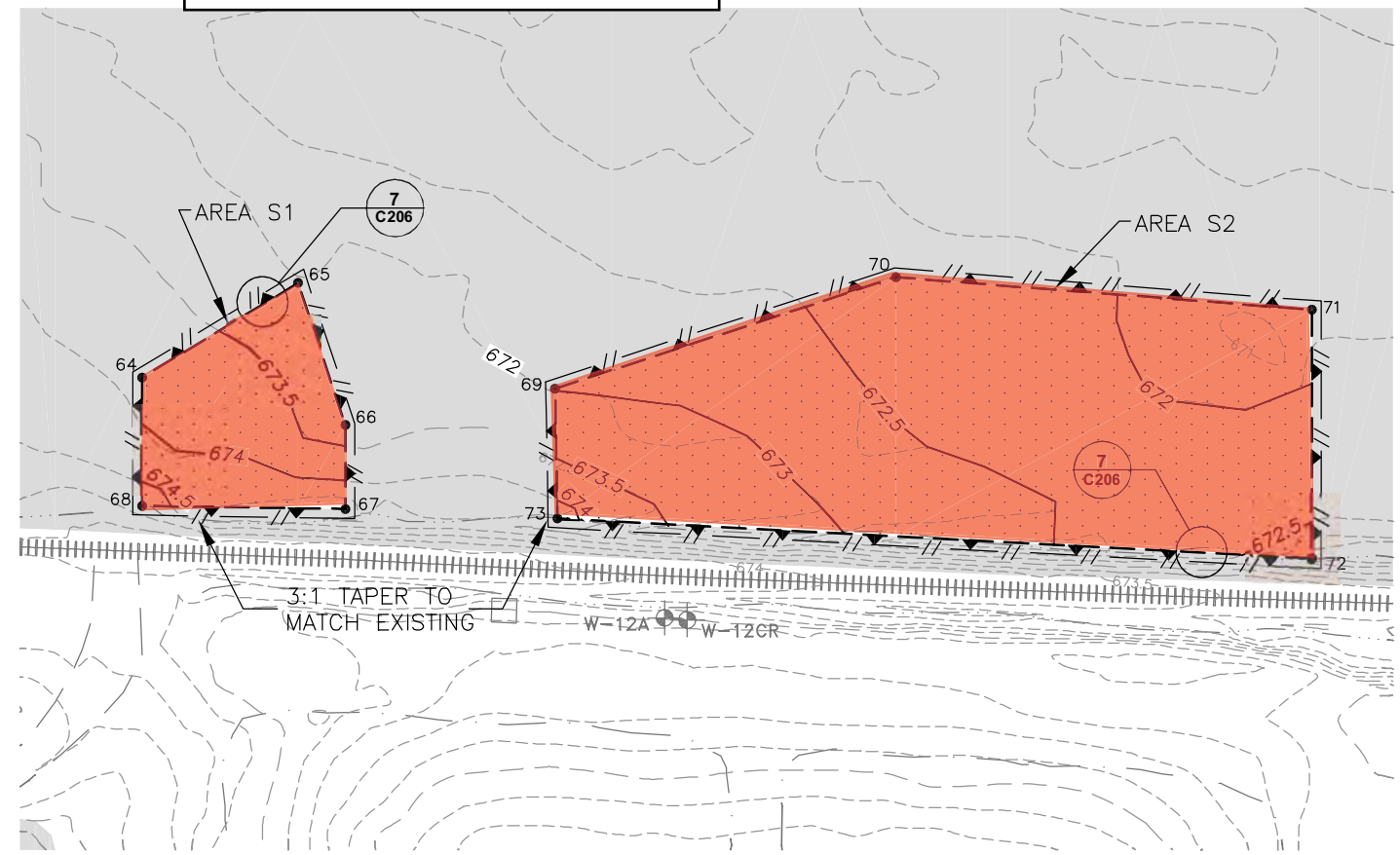
ARCADIS Project No. B0039165  
Date: DECEMBER 2009  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**C202**

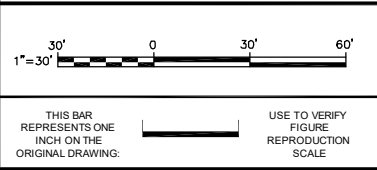
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**AREA H**  
SCALE: 1" = 30'

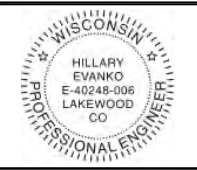


**AREA S1 & S2**  
SCALE: 1" = 30'



No.	Date	Revisions	By	Ckd
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C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name		<b>HILLARY EVANKO</b>	
Professional Engineer's No.		40248-006	
State	Date Signed	Project Mgr.	
WI			
Designed by	Drawn by	Checked by	
HME	HSI	TEH	



KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

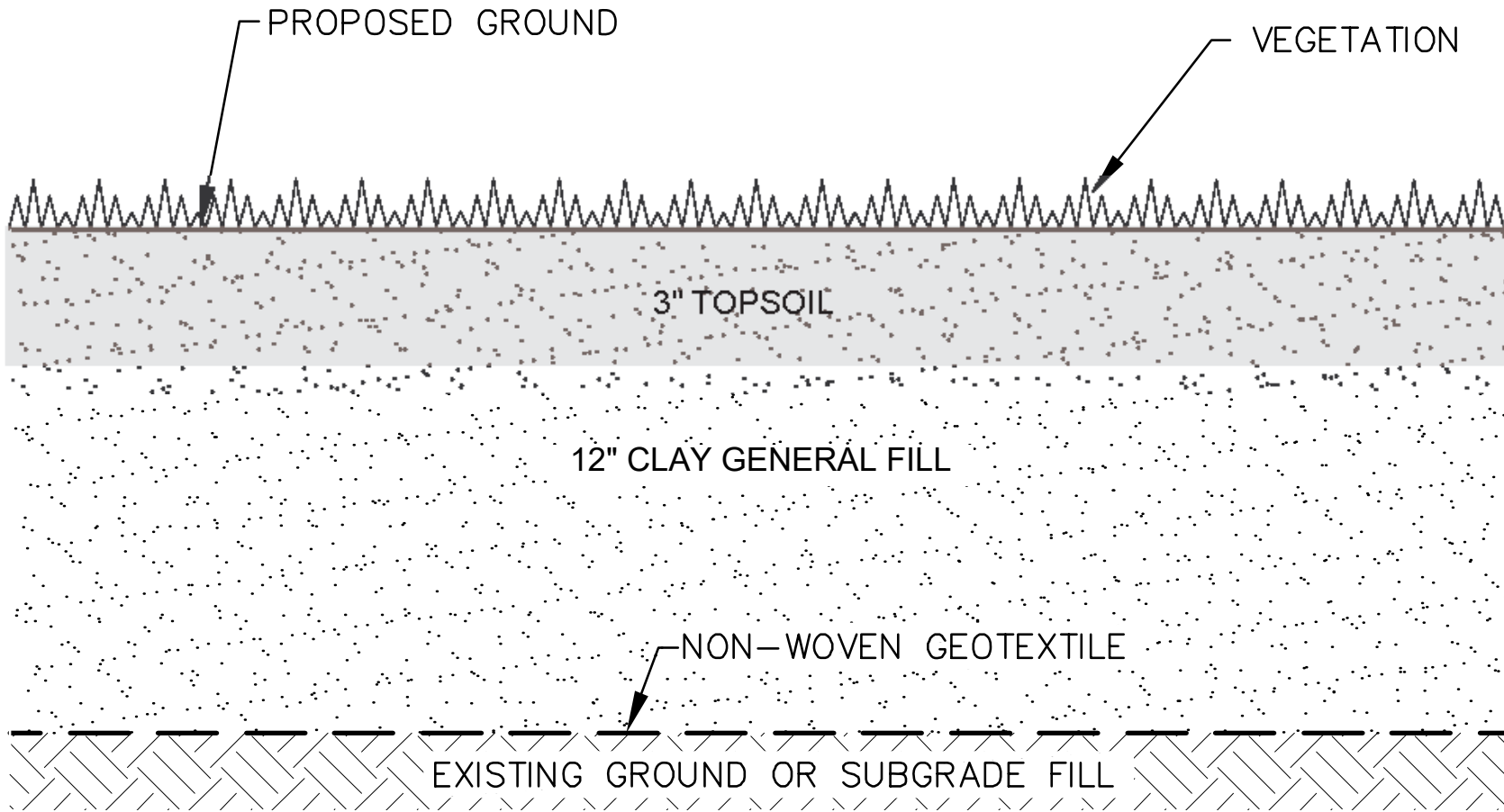
**FINAL GRADING PLAN - AREAS H, S1 & S2**

ARCADIS Project No. B0039165
Date DECEMBER 2009
ARCADIS U.S. INC. 2929 BRIARPARK DRIVE SUITE 300 HOUSTON, TX 77042 713-953-4800

**C204**







**TYPICAL CLAY VEGETATED SURFACE COVER**

NOT TO SCALE

**FIGURE 1**

**Attachment 2**

Board of Water and Soil Resources (BWSR) W2N (34-371) Native Seed Mix

34-371

## Wet Meadow Northeast

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by wt)	Seeds/ sq ft
fringed brome	<i>Bromus ciliatus</i>	2.24	2.00	16.04%	8.10
bluejoint	<i>Calamagrostis canadensis</i>	0.11	0.10	0.78%	10.00
Virginia wild rye	<i>Elymus virginicus</i>	1.68	1.50	11.99%	2.31
tall manna grass	<i>Glyceria grandis</i>	0.28	0.25	1.96%	6.30
fowl bluegrass	<i>Poa palustris</i>	0.73	0.65	5.19%	31.00
	<b>Total Grasses</b>	<b>5.04</b>	<b>4.50</b>	<b>35.96%</b>	<b>57.71</b>
tussock sedge	<i>Carex stricta</i>	0.04	0.04	0.35%	0.85
pointed broom sedge	<i>Carex scoparia</i>	0.06	0.05	0.39%	1.50
dark green bulrush	<i>Scirpus atrovirens</i>	0.22	0.20	1.56%	33.00
woolgrass	<i>Scirpus cyperinus</i>	0.07	0.06	0.51%	40.00
	<b>Total Sedges and Rushes</b>	<b>0.39</b>	<b>0.35</b>	<b>2.81%</b>	<b>75.35</b>
Canada anemone	<i>Anemone canadensis</i>	0.11	0.10	0.82%	0.30
marsh milkweed	<i>Asclepias incarnata</i>	0.27	0.24	1.95%	0.43
flat-topped aster	<i>Doellingeria umbellata</i>	0.11	0.10	0.81%	2.50
common boneset	<i>Eupatorium perfoliatum</i>	0.10	0.09	0.68%	5.00
grass-leaved goldenrod	<i>Euthamia graminifolia</i>	0.04	0.04	0.31%	5.00
spotted Joe pye weed	<i>Eutrochium maculatum</i>	0.16	0.14	1.15%	5.00
blue monkey flower	<i>Mimulus ringens</i>	0.03	0.03	0.24%	25.00
giant goldenrod	<i>Solidago gigantea</i>	0.03	0.03	0.20%	2.30
eastern panicled aster	<i>Symphotrichum lanceolatum</i>	0.03	0.03	0.28%	2.00
	<b>Total Forbs</b>	<b>0.09</b>	<b>0.80</b>	<b>6.44%</b>	<b>47.53</b>
Oats	<i>Avena sativa</i>	7.68	6.85	54.79%	3.05
	<b>Total Cover Crop</b>	<b>7.68</b>	<b>6.85</b>	<b>54.79%</b>	<b>3.05</b>
	<b>Totals:</b>	<b>14.01</b>	<b>12.50</b>	<b>100.00%</b>	<b>183.64</b>
<b>Purpose:</b>	Wet meadow / Sedge meadow reconstruction for wetland mitigation or ecological restoration.				
<b>Planting Area:</b>	Laurentian Mixed Forest Province. Mn/DOT Districts 1, 2(east) and 3A.				

**FIELD ORDER NO. 003, August 18, 2010**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System

**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc.  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS  
Aaron Geyer, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following adjustments to the surface cover design. Any changes in cost or schedule should be noted to Beazer.

**BACKGROUND:**

Standing water and very soft conditions have been encountered at Areas G, H, S1 and S2 (see Photographs 1 and 2 below). Woven geotextile and angular stone will be placed in these wet areas, as necessary, to bridge the standing water and soft soils and provide a stable surface for installation of the Clay Vegetated Surface Covers.



Photograph 1 – Looking southeast at Area G



Photograph 2 – Looking southwest at Area H

## **ACTION ITEMS:**

Part 1 General, Article 1.2 Summary of Work, Paragraph F Vegetated Surface Covers, Subparagraph 1 Areas G, H, S1 and S2 of the Project Manual has been revised as follows<sup>1</sup>:

### F. Vegetated Surface Covers (Contract Drawings C100 – C206)

#### 1. Areas G, H, S1 and S2

- a. Subgrade Leveling – ~~Proof roll the surface cover area with a smooth drum or sheepsfoot roller to identify soft areas and provide a level of compaction for the existing grade. If soft areas are identified, treat the soft spots with cement or LKD.~~ Place non-woven geotextile over the prepared subgrade. Place angular stone over the woven geotextile, as necessary, to “bridge” the standing water and soft soils.
- b. Surface Cover Construction – Install Clay Vegetated Surface Cover, in accordance with the revised Contract Drawings (Attachment 1 of this Field Order) and the revised Quality Control Requirements listed in Table 1 (Attachment 1 of Field Order 2). The final surface of the Clay Vegetated Surface Cover should provide drainage away from the existing railroad tracks. At the edges of the Clay Vegetated Surface Covers adjacent to wetlands, the toe of the taper to match existing grades must be sloped to not extend over 3 feet beyond the surface cover limit.
- c. Restoration – Seed disturbed vegetated areas in accordance with the ~~E&SCP (Appendix B)~~ seed mix identified by the USACE (Attachment 2 of Field Order 2). Drive soil marker anchor stakes to permanently remain in place for future surface cover boundary identification at the Surface Cover Limits identified on the Contract Drawings (Attachment 1 of this Field Order).

The products identified in this field order that are not already identified in the Project Manual shall adhere to the following specifications:

## **STONE MATERIALS**

- A. Use 5-inch Minus Shot Rock or Crushed Stone Base Course, or approved similarly graded stone.

---

<sup>1</sup> Edits to the May 2010 Project Manual text from Field Order No. 2 are shown in red font. Edits to the May 2010 Project Manual text from Field Order No. 3 are shown in blue font.

**GEOSYNTHETICS**

## A. Woven Geotextile

1. Type: Woven geotextile, such as SKAPS W315 or approved equal.
2. Overlapping requirements: extend woven geotextile, as necessary, using minimum 2-foot overlaps.
3. The woven geotextile shall meet the minimum average roll value (MARV) for each physical property listed in the table below.

Property	Unit of Measure	Test Method	MARV
Grab Tensile	lbs	ASTM D4632	315
Grab Elongation	%	ASTM D4632	15
Mullen Burst	psi	ASTM D3786	600
Puncture	lbs	ASTM D4833	120
Trapezoidal Tear	lbs	ASTM D4533	120
UV Resistance	% Retained @ 500 hrs	ASTM D4355	70
Unit Weight	oz/yd <sup>2</sup>	ASTM D5261	6.0
Permittivity	sec <sup>-1</sup>	ASTM D4491	0.05
Apparent Opening Size	mm	ASTM D4751	0.425

NOTES:

lbs = pounds; % = percent; psi = pounds per square inch; hrs = hours; oz = ounce;  
 yd = yard; sec = second; mm = millimeter

A revised Table 2 - Contractor Submittal Register, which includes these additional products, is included in Attachment 1 of this Field Order.

**Submitted By:** Hillary Evanko, PE

**Date:** August 18, 2010

**Attachment 1**

Revised Table 2 - Contractor Submittal Register and Contract Drawings

**TABLE 2  
CONTRACTOR SUBMITTAL REGISTER  
ON-PROPERTY CORRECTIVE MEASURES PROJECT MANUAL  
KOPPERS INC. FACILITY  
SUPERIOR, WI**

**REVISED 8-18-10  
FIELD ORDER NO. 2  
REVISED 8-18-10  
FIELD ORDER NO. 3**

Item No.	Submittal Description	Submittal Timeline	Date Received	Status/Date (see Note 1)	Notes
1a	General Fill - Name of Supplier, Gradation and Results of Chemical Analysis	Submit 2 weeks prior to material placement			
1b	Clay General Fill - Name of Supplier, Gradation and Results of Chemical Analysis	Submit 2 weeks prior to material placement			
1c	Topsoil - Name of Supplier and Results of Chemical Analysis	Submit 2 weeks prior to material placement			
2	Stone for Stone Tracking Pad - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
3	Road Base Gravel - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
4	Washed Pea Gravel - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
5	Gabion Mattress Stone - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
6a	Stone for Taper Layers - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
6b	Stone for Areas G, H, S1 and S2 "bridging" - Name of Supplier and Gradation	Submit 2 weeks prior to material placement			
7	Non-Woven Geotextile - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
8a	Woven Geotextile - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
8b	Woven Geotextile for Areas G, H, S1 and S2 "bridging" - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
9	Reactive Core Mat - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
10	Organoclay - Manufacturer's Product Information	Submit 2 weeks prior to material placement			
11	Native Seed Mix - Copy of the seed tag	Submit 2 weeks prior to seeding			
12	Soil Markers - Manufacturer's Product Information	Submit 2 weeks prior to installation			

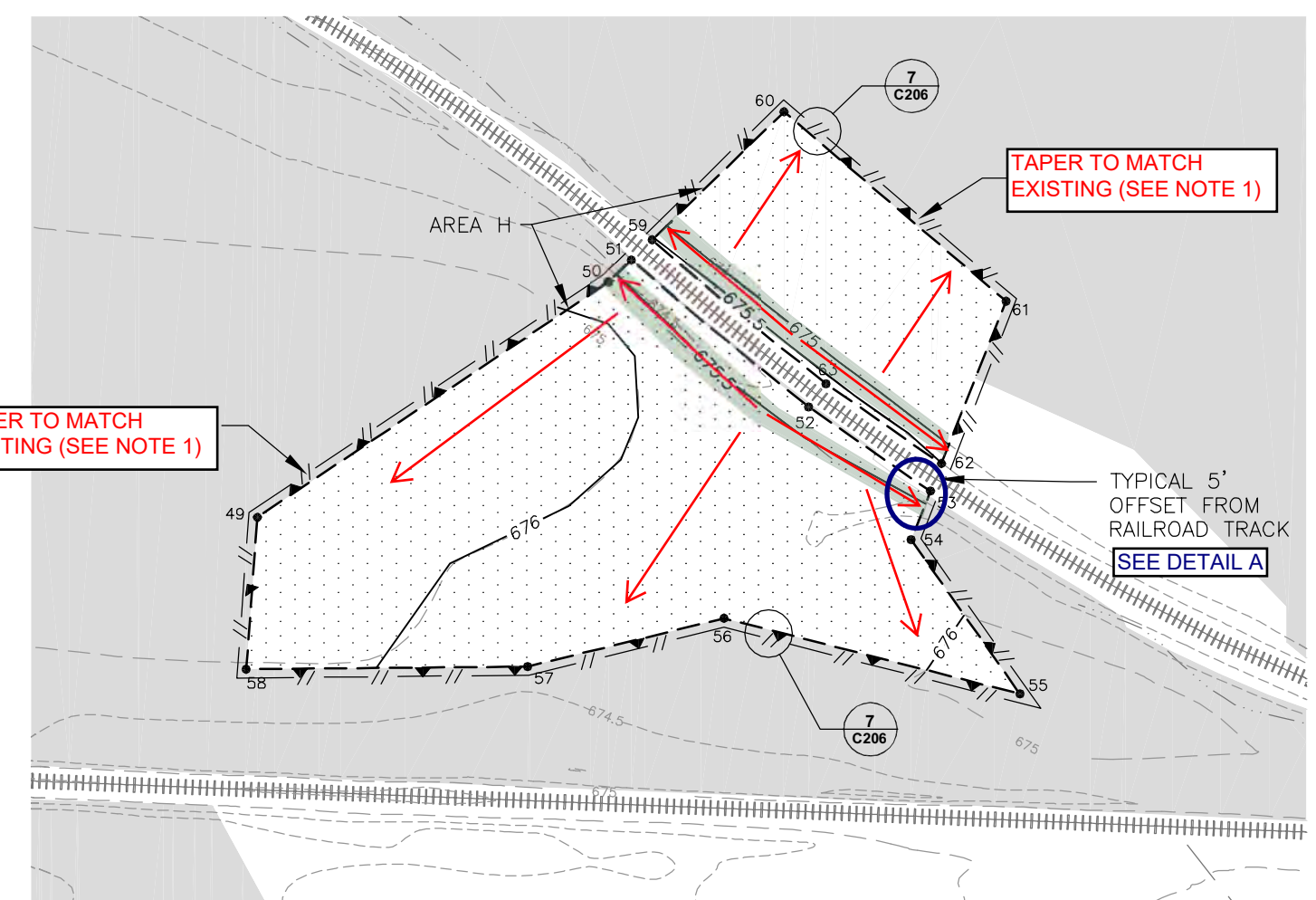
**Notes:**

1. Submittal Process:

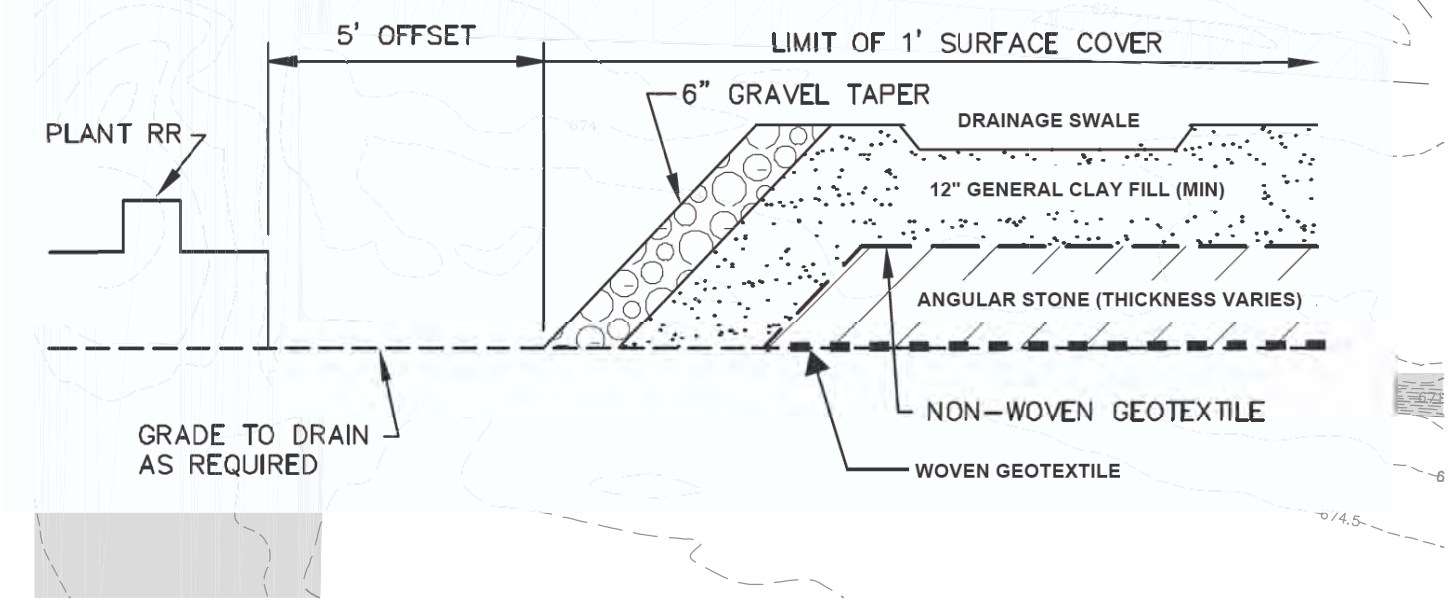
- Contractor provides Transmittal of Submittal and acknowledges Contractor's review.
- ARCADIS reviews submittal and provides following actions:
  - APPROVED
  - APPROVED AS CORRECTED (Resubmit final copy for file)
  - REVISE AND RESUBMIT BEFORE PROCEEDING
  - NOT APPROVED



CITY: DIV/GRUPP: DB: LD: PIC: PM: TYRON=OFF=REF: G:\ENVCAD\HOU\STON\ACT\B0039165\0000\000\3D\MG\39165C200\_C202\_C204\_C205.DWG LAYOUT: C204\_SAVED\_4/30/2010 11:20 AM ACADVER: 17.0S (LMS TECH) PAGES: 17 TOTAL PAGES: 17 PLOTTED: 3:08 PM BY: INNISS, HAYDEN



**DETAIL A - TYPICAL OFFSET FROM RR TRACK**



**AREA H**  
SCALE: 1" = 30'

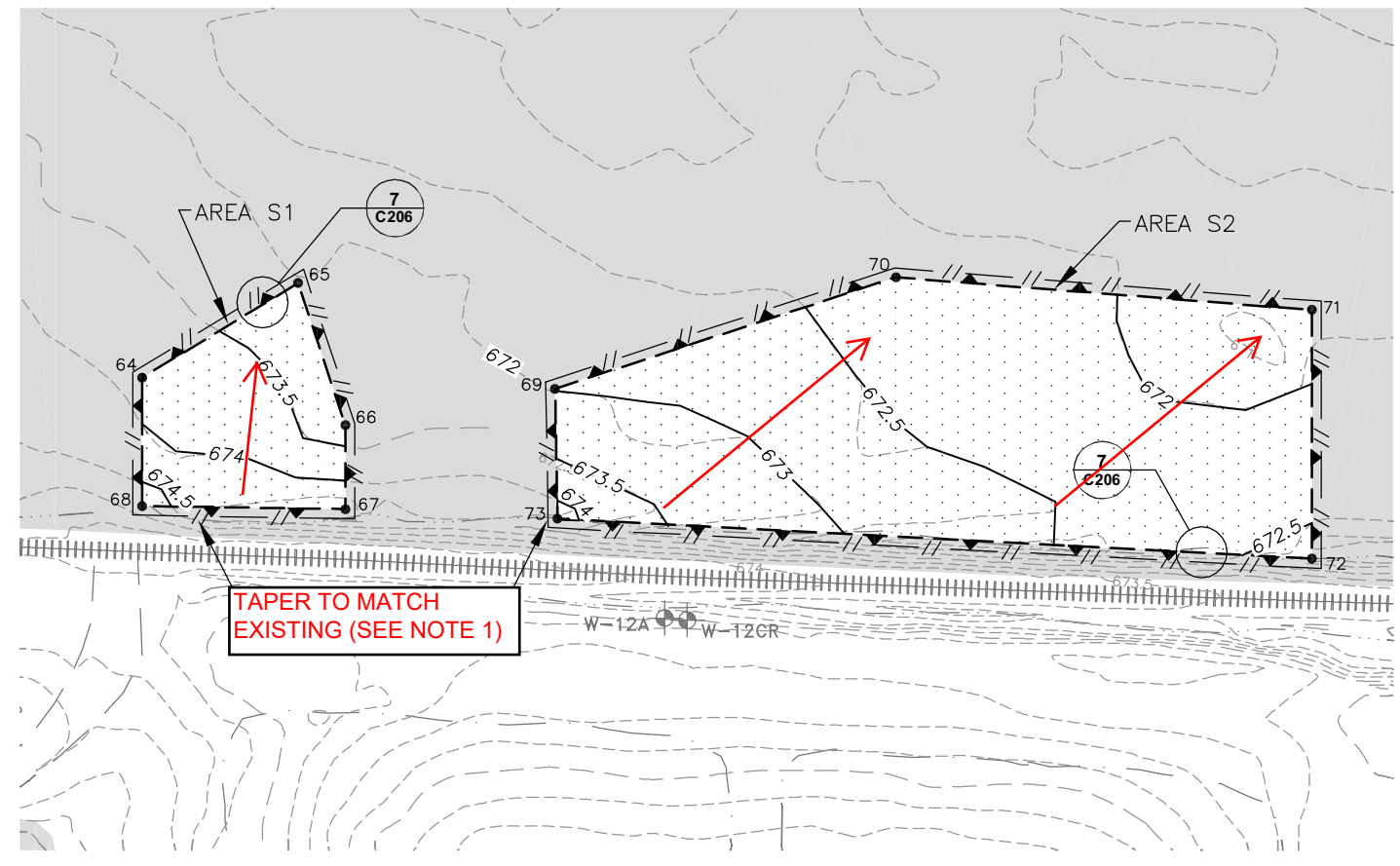
**LEGEND:**

- ⊕ MONITORING WELL
- - - LIMIT OF 1' SURFACE COVER
- ▒ WETLAND AREA
- - - WATER COURSE
- - - 675 - - - EXISTING CONTOUR
- ||||| EXISTING RAILROAD LINES
- - - EXISTING GRAVEL ACCESS ROAD
- // PROPOSED LIMITS OF GRADING
- - - 676 - - - PROPOSED ELEVATION CONTOUR
- ▒ PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
- 52 - - - SURFACE COVER LIMIT (SEE DRAWING C103)

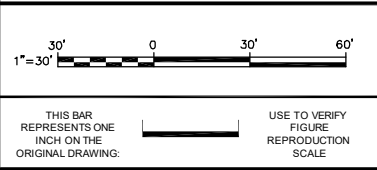
**PROPOSED SURFACE WATER FLOW DIRECTION**

**PROPOSED DRAINAGE SWALE**

**NOTE 1 - IN WETLAND AREAS, TOE OF TAPER MUST BE WITHIN 3' BEYOND OF THE SURFACE COVER LIMIT.**



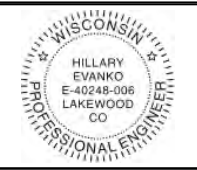
**AREA S1 & S2**  
SCALE: 1" = 30'



No.	Date	Revisions	By	Ckd
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REPRODUCED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.

Professional Engineer's Name <b>HILLARY EVANKO</b>		
Professional Engineer's No. 40248-006		
State	Date Signed	Project Mgr.
Wisconsin		
Designed by HME	Drawn by HSI	Checked by TEH



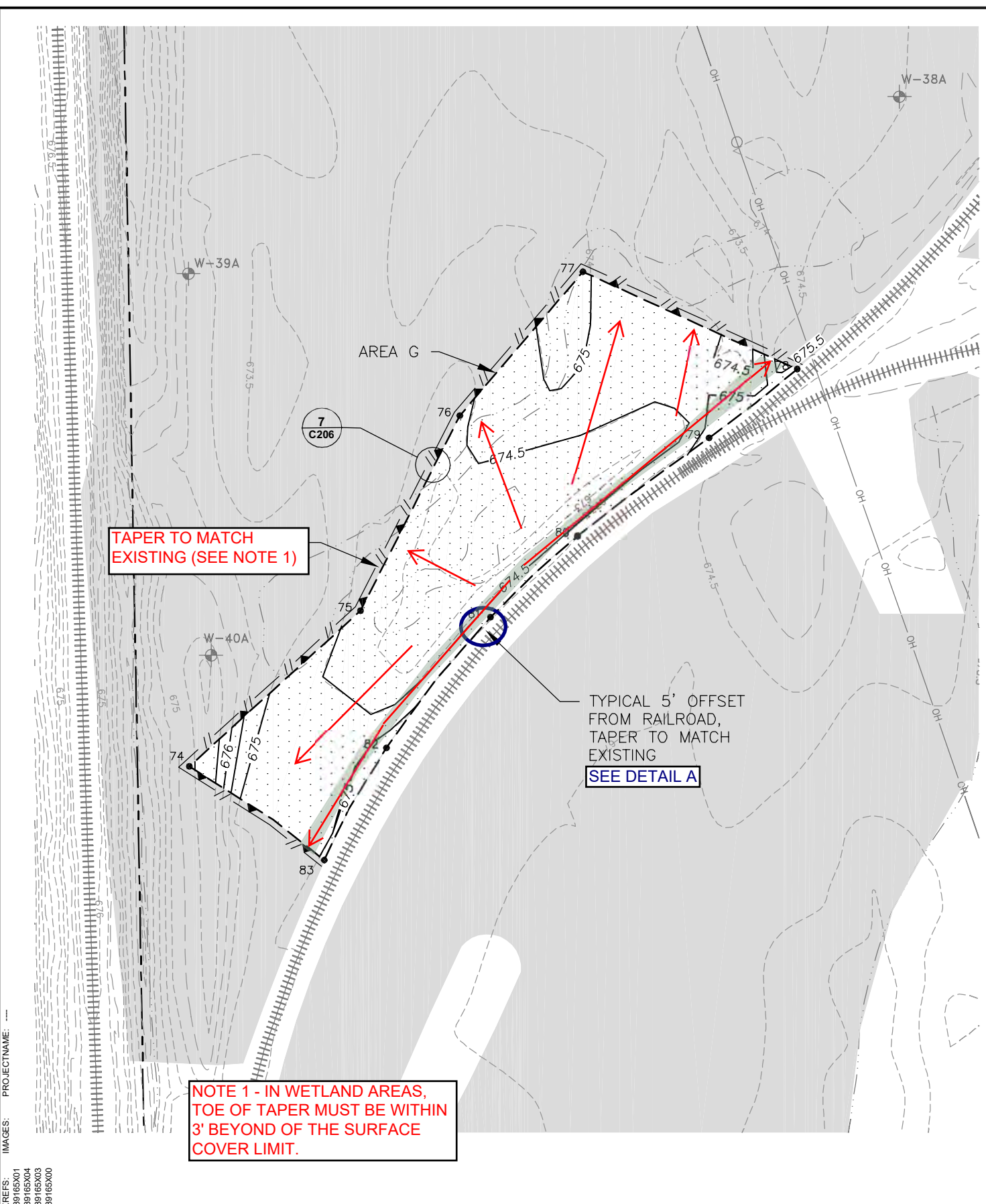
KOPPERS INC. FACILITY, BEAZER EAST INC. • SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

**FINAL GRADING PLAN - AREAS H, S1 & S2**

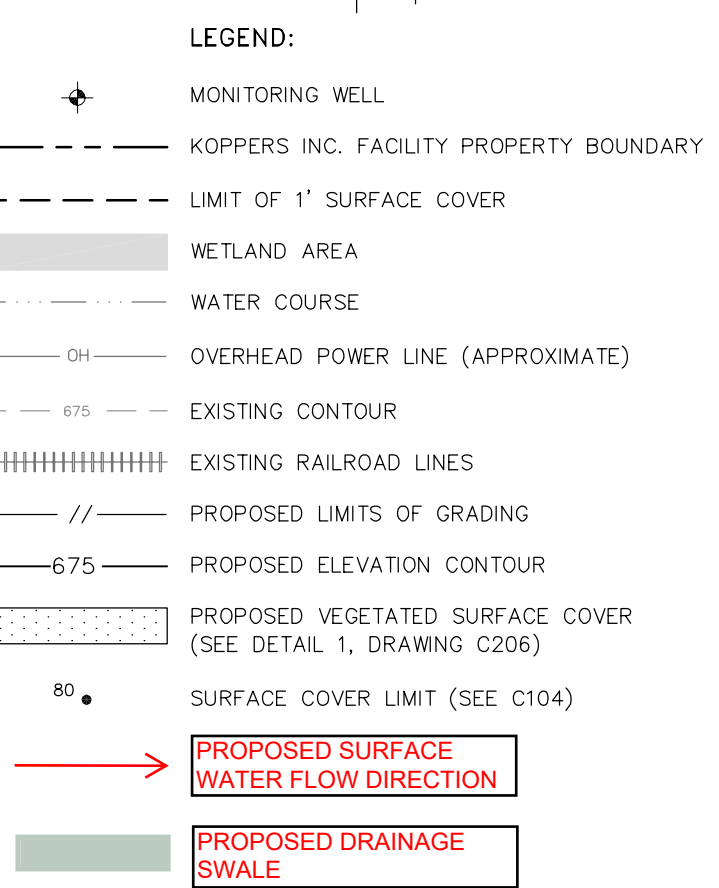
ARCADIS Project No. B0039165
Date DECEMBER 2009
ARCADIS U.S. INC. 2929 BRIARPARK DRIVE SUITE 300 HOUSTON, TX 77042 713-953-4800

**C204**

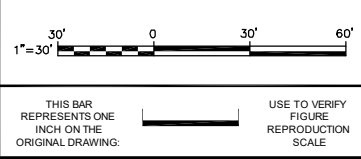
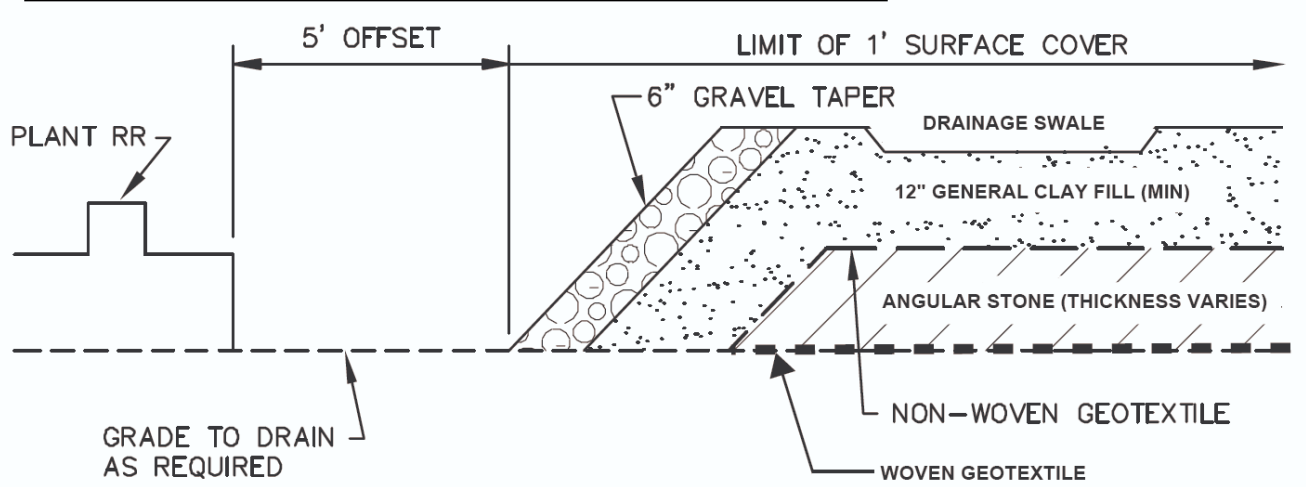
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 XREFS: 39165X01 39165X04 39165X05 39165X00



**NOTE 1 - IN WETLAND AREAS, TOE OF TAPER MUST BE WITHIN 3' BEYOND OF THE SURFACE COVER LIMIT.**



**DETAIL A - TYPICAL OFFSET FROM RR TRACK**



No.	Date	Revisions	By	Ckd
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REPRODUCED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.

Professional Engineer's Name <b>HILLARY EVANKO</b>		
Professional Engineer's No. 40248-006		
State	Date Signed	Project Mgr.
-	-	-
Designed by HME	Drawn by HSI	Checked by TEH



KOPPERS INC. FACILITY, BEAZER EAST INC., • SUPERIOR, WISCONSIN  
 SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

**FINAL GRADING PLAN - AREA G**

ARCADIS Project No. B0039165
Date DECEMBER 2009
ARCADIS U.S. INC. 2929 BRIARPARK DRIVE SUITE 300 HOUSTON, TX 77042 713-953-4800

**C205**

**FIELD ORDER NO. 004, September 24, 2010**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System

**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc.  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS  
Aaron Geyer, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following adjustments to the surface cover design. Any changes in cost or schedule should be noted to Beazer.

**BACKGROUND:**

The Limit of Grading in Area B has been adjusted to include an approximately 50 feet by 50 feet area north of the large concrete slab, where a small pump house building exists. This area is currently subject to ponding water (see Photograph 1). To address the ponding water, fill material



will be placed in this area. The pump house building, which is a wooden shed set on the existing grade, will need to be raised to accommodate the fill material.

Koppers will be responsible for raising the pump house building and performing any necessary plumping/electrical modifications to maintain a functional pumping system.

*Photograph 1 – Looking south at pump house building and large concrete slab.*

**ACTION ITEMS:**

Attached is revised Contract Drawing C200 for the final revised grading plan for Area B based on the adjusted Limit of Grading to include the pump house building area and 2010 ground survey data<sup>1</sup>.

An electronic copy of revised Contract Drawing C200 was provided to the Contractor on Monday, September 20, 2010.

Install surface covers in accordance with Field Order No. 002 (dated August 18, 2010).

**Submitted By:**           Hillary Evanko, PE          

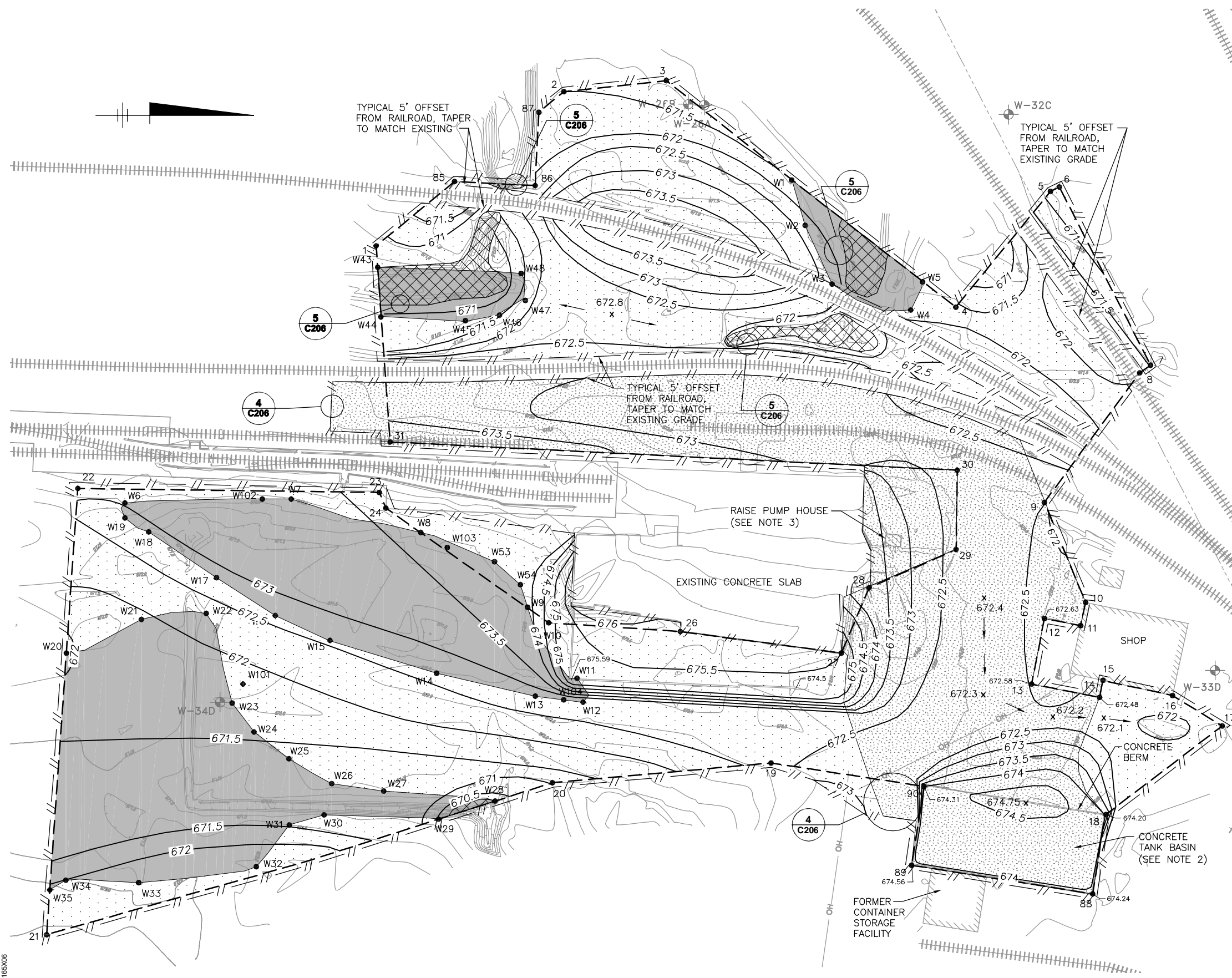
**Date:**           September 24, 2010          

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<sup>1</sup> Cross-sections A, B and C (included on Contract Drawing C201) were not revised for this Field Order No. 004 submittal.

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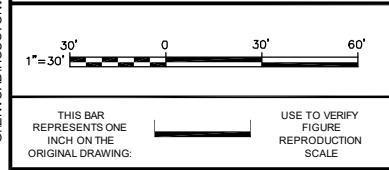
PROJECTNAME: --- XREFS: 39165X00 39165X06



**LEGEND:**

- MONITORING WELL
- KOPPERS INC. FACILITY PROPERTY BOUNDARY
- LIMIT OF 1' SURFACE COVER
- WATER COURSE
- OH OVERHEAD POWER LINE (APPROXIMATE)
- 675 EXISTING CONTOUR
- 672.48 EXISTING SPOT ELEVATION
- EXISTING RAILROAD LINES
- EXISTING GRAVEL ACCESS ROAD
- PROPOSED LIMITS OF GRADING
- 674 PROPOSED ELEVATION CONTOUR
- x672.25 PROPOSED SPOT ELEVATION
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
- PROPOSED VEGETATED OR CLAY VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206 OR FIGURE 1, FIELD ORDER NO. 2) - MATCH EXISTING GRADE (SEE NOTE 2)
- PROPOSED ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING C206)
- PROPOSED CLAY VEGETATED SURFACE COVER (SEE FIGURE 1, FIELD ORDER NO. 2)
- 20 SURFACE COVER LIMIT (SEE DRAWING C101)
- W1 WETLAND BOUNDARY (SEE DRAWING C101)
- PROPOSED SURFACE WATER FLOW
- 5 C206 DETAIL SHEET NUMBER

- NOTES:**
1. PREPARE AND LINE CONCRETE TANK BASIN AS DESCRIBED IN DESIGN REPORT PRIOR TO BACKFILLING.
  2. MATCH FINAL VEGETATED SURFACE COVER GRADES TO EXISTING GRADES AT DITCHES. EXCAVATE AND FILL AS NECESSARY TO PROTECT EXISTING CULVERTS AT WATER COURSE RAILROAD CROSSINGS.
  3. KOPPERS WILL BE RESPONSIBLE FOR RAISING THE PUMP HOUSE BUILDING AND PERFORMING ANY NECESSARY PLUMBING/ELECTRICAL MODIFICATIONS TO MAINTAIN A FUNCTIONAL PUMPING SYSTEM. DO NOT PLACE CUT/FILL GRADING MATERIAL WITHIN THE PUMP HOUSE AREA (I.E., BEYOND THE LIMIT OF 1' SURFACE COVER). USE ROADBASE MATERIAL ONLY IN THIS AREA.



No.	Date	Revisions	By	Ckd
E	9/10	REVISED GRADING	HSI	HME
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name <b>HILLARY EVANKO</b>		
Professional Engineer's No. 40248-006		
State WISCONSIN	Date Signed	Project Mgr.
Designed by HME	Drawn by HSI	Checked by TEH



KOPPERS INC. FACILITY, BEAZER EAST INC. • SUPERIOR, WISCONSIN  
**SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM**  
**FINAL GRADING PLAN - AREA B**

ARCADIS Project No. B0039165	<b>C200</b>
Date DECEMBER 2009	
ARCADIS U.S. INC. 2929 BRIARPARK DRIVE SUITE 300 HOUSTON, TX 77042 713-953-4800	

**FIELD ORDER NO. 005, November 18, 2010**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System

**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc.  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS  
Aaron Geyer, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following adjustments to the surface cover design. Any changes in cost or schedule should be noted to Beazer.

**BACKGROUND:**

As requested by Koppers Inc. and addressed in Field Order No. 2 (dated August 18, 2010), soil markers will be installed to permanently remain in place for future surface cover boundary demarcation at the Surface Cover Limits identified on the Contract Drawings. The soil markers will be labeled "Surface Cover Limit" and numbered as shown on the Contract Drawings.

This Field Order No. 5 has been prepared to depict the final Surface Cover Limits in Area B where soil markers are to be placed.

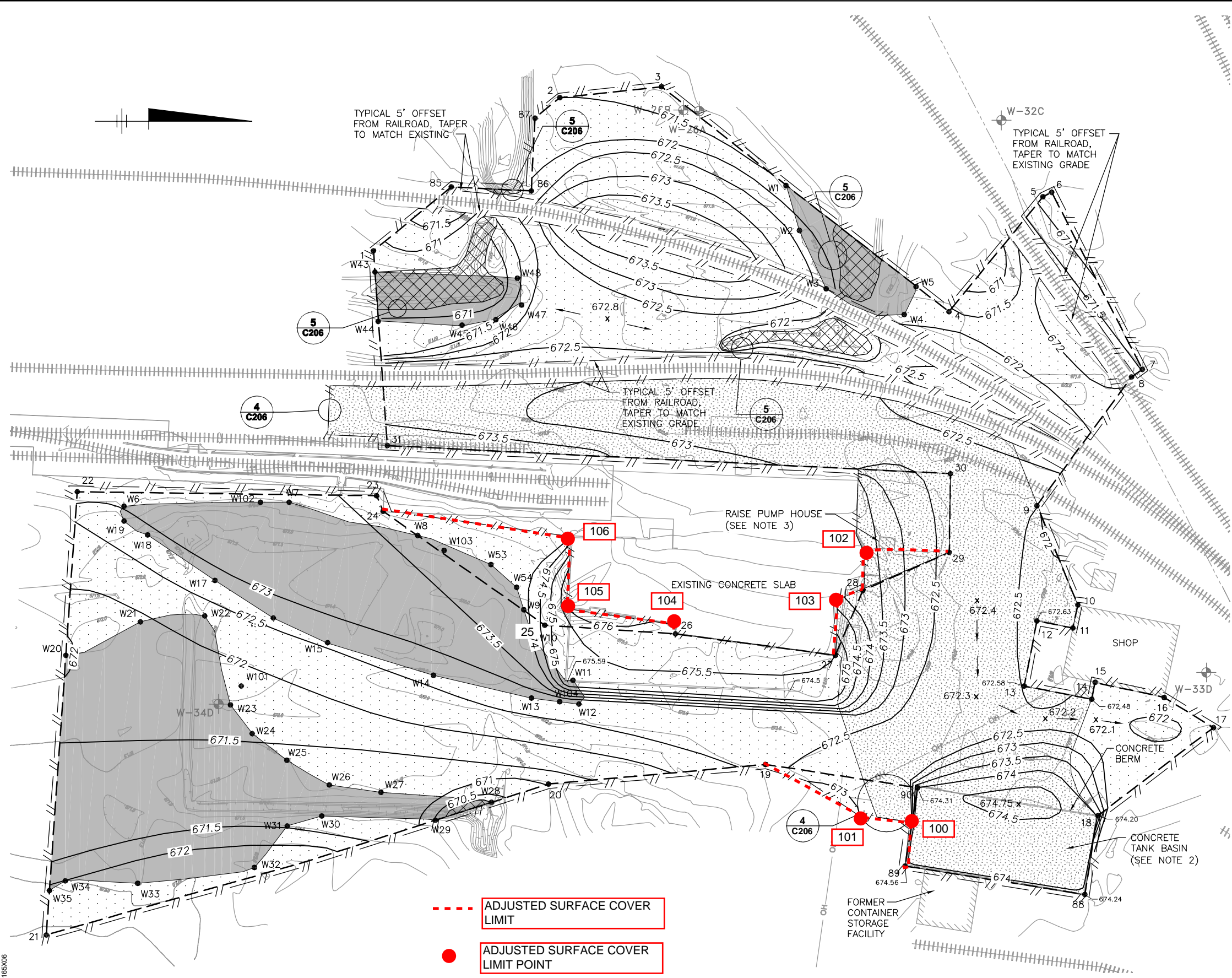
**ACTION ITEMS:**

Attached Contract Drawing C200 depicts the final Surface Cover Limits for Area B..

As noted on attached Contract Drawing C200, existing Surface Cover Limits 25 and 90 are within the revised surface cover, and the revised surface cover resulted in new Surface Cover Limits 100 through 106.

**Submitted By:**           Cole Raesner, EIT                **Date:**           November 18, 2010

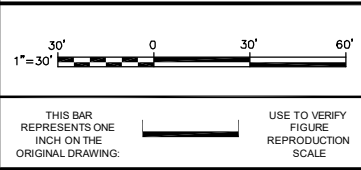
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 XREFS: 39165X00 39165X06  
 IMAGES: PROJECTNAME: ---



- LEGEND:**
- MONITORING WELL
  - KOPPERS INC. FACILITY PROPERTY BOUNDARY
  - LIMIT OF 1' SURFACE COVER
  - WATER COURSE
  - OVERHEAD POWER LINE (APPROXIMATE)
  - EXISTING CONTOUR
  - EXISTING SPOT ELEVATION
  - EXISTING RAILROAD LINES
  - EXISTING GRAVEL ACCESS ROAD
  - PROPOSED LIMITS OF GRADING
  - PROPOSED ELEVATION CONTOUR
  - PROPOSED SPOT ELEVATION
  - PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
  - PROPOSED VEGETATED OR CLAY VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206 OR FIGURE 1, FIELD ORDER NO. 2) - MATCH EXISTING GRADE (SEE NOTE 2)
  - PROPOSED ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING C206)
  - PROPOSED CLAY VEGETATED SURFACE COVER (SEE FIGURE 1, FIELD ORDER NO. 2)
  - SURFACE COVER LIMIT (SEE DRAWING C101)
  - WETLAND BOUNDARY (SEE DRAWING C101)
  - PROPOSED SURFACE WATER FLOW
  - DETAIL SHEET NUMBER

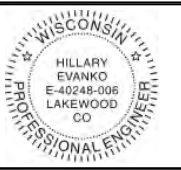
- NOTES:**
1. PREPARE AND LINE CONCRETE TANK BASIN AS DESCRIBED IN DESIGN REPORT PRIOR TO BACKFILLING.
  2. MATCH FINAL VEGETATED SURFACE COVER GRADES TO EXISTING GRADES AT DITCHES. EXCAVATE AND FILL AS NECESSARY TO PROTECT EXISTING CULVERTS AT WATER COURSE RAILROAD CROSSINGS.
  3. KOPPERS WILL BE RESPONSIBLE FOR RAISING THE PUMP HOUSE BUILDING AND PERFORMING ANY NECESSARY PLUMBING/ELECTRICAL MODIFICATIONS TO MAINTAIN A FUNCTIONAL PUMPING SYSTEM. DO NOT PLACE CUT/FILL GRADING MATERIAL WITHIN THE PUMP HOUSE AREA (I.E., BEYOND THE LIMIT OF 1' SURFACE COVER). USE ROADBASE MATERIAL ONLY IN THIS AREA.

ADJUSTED SURFACE COVER LIMIT  
 ADJUSTED SURFACE COVER LIMIT POINT



E	9/10	REVISED GRADING	HSI	HME
D	4/10	REVISED GRADING, ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME
No.	Date	Revisions	By	Ckd

Professional Engineer's Name  
**HILLARY EVANKO**  
 Professional Engineer's No.  
 40248-006  
 State Date Signed Project Mgr.  
 HSI TEH



KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
 SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**FINAL GRADING PLAN - AREA B**

ARCADIS Project No.  
 B0039165  
 Date  
 DECEMBER 2009  
 ARCADIS U.S. INC.  
 2929 BRIARPARK DRIVE  
 SUITE 300  
 HOUSTON, TX 77042  
 713-953-4800

**C200**

**FIELD ORDER NO. 006, January 3, 2011**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System  
**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc. (Severson)  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS  
Aaron Geyer, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following adjustments to the surface cover design. Any changes in cost or schedule should be noted to Beazer.

**BACKGROUND:**

This Field Order summarizes the methods and schedule for seeding and erosion controls, due to the fact that permanent vegetation will not be fully established prior to demobilization in 2010. In general, all vegetated areas will be evaluated as soon as conditions allow in the spring of 2011, any eroded areas will be repaired, and areas seeded/re-seeded as necessary<sup>1</sup>. In addition, Erosion Control Matting (ECM) will be placed in Clay Vegetated Surface Covers/Vegetated Surface Covers areas with slopes greater than 4 horizontal (H) to 1 vertical (V) (4H:1V; 25%), to minimize erosion and provide protection for the seed in these areas. Finally, in accordance with the Erosion and Sediment Control Plan (E&SCP; appendix B of the Project Manual), erosion controls (e.g., silt fence, hay bales, etc.) will be maintained to reduce the velocity of runoff and encourage deposition of suspended sediments until permanent vegetation is fully established. Accumulated sediments will be removed and damaged silt fencing will be replaced or repaired prior to initiating spring 2011 activities.

---

<sup>1</sup> Clay Vegetated Surface Covers in Areas F1, G, H, S1 and S2 were seeded in accordance with Field Order No. 2 (dated August 18, 2010) on September 30, 2010. Clay Vegetated Surface Covers/Vegetated Surface Covers in Areas B and A have not been seeded and due to the time of year at which these areas will be completed, seeding will not occur in the spring of 2011.



**ACTION ITEMS:**

1. Erosion Controls

- A. As soon as conditions allow in the spring of 2011, inspect all erosion controls (e.g., silt fences, hay bales, etc.) and drainage features (e.g., ditches and swales). Repair any damage and remove accumulated sediments that may limit the functionality of the erosion controls and drainage features.

2. Vegetated Surface Covers

A. Areas G, H, S1 and S2

- a. As soon as conditions allow in the spring of 2011, check for erosion and assess vegetative growth over the entire area, including the perimeter slopes. As necessary, and as soon as conditions allow, repair eroded areas (i.e., place additional fill materials and re-grade, consistent with the Project Manual and prior Field Orders) and re-seed unvegetated areas using the seed mix identified in Field Order No. 2 (dated August 18, 2010).
- b. Following re-seeding, install ECM on the slopes around the perimeter of these areas as shown in attached Contract Drawings C204 and C205 in accordance the manufacturer's installation procedures (Attachment A).

B. Area A

- a. Prior to snow accumulation in newly constructed surface cover area, apply straw over entire surface cover limits in accordance to WDNR specifications (Attachment C), and crimp into soil using dozer tracks.
- b. As soon as conditions allow in the spring of 2011, check for erosion over the entire area. As necessary, repair eroded areas (i.e., place additional fill materials and re-grade, consistent with the Project Manual and prior Field Orders) and install the seed mix identified in the E&SCP.
- c. Following seeding, install ECM over any grades of 4H:1V or greater in accordance the manufacturer's installation procedures (Attachment A).

C. Area F1

- a. As soon as conditions allow in the spring of 2011, check for erosion and assess vegetative growth in the vegetated wetland ditch. As necessary, and as soon as conditions allow, repair eroded areas (i.e., place additional fill

materials and re-grade, consistent with the Project Manual and prior Field Orders) and re-seed unvegetated areas using the seed mix identified in Field Order No. 2 (dated August 18, 2010).

- b. Following re-seeding, install ECM in the vegetated wetland ditch as shown in attached Contract Drawing C202 in accordance the manufacturer's installation procedures (Attachment B).

D. Area B

- a. As soon as conditions allow in the spring of 2011, check for erosion over the entire area. As necessary, repair eroded areas (i.e., place additional fill materials and re-grade, consistent with the Project Manual and prior Field Orders), and install the seed mix identified in the E&SCP over the Vegetated Surface Cover areas and the seed mix identified in Field Order No. 2 over the Clay Vegetated Surface Cover areas.
- b. Following seeding, install ECM in the vegetated ditches and around the existing concrete slab as shown in attached Contract Drawing C200 in accordance the manufacturer's installation procedures (Attachments A and B).

The total estimated quantity of ECM needed for Areas B, F1, G, H, S1 and S2 is **5,000 SY**. Additional ECM may be required for Area A based on the actual constructed contours.

The ECM identified in this field order shall adhere to the following specifications:

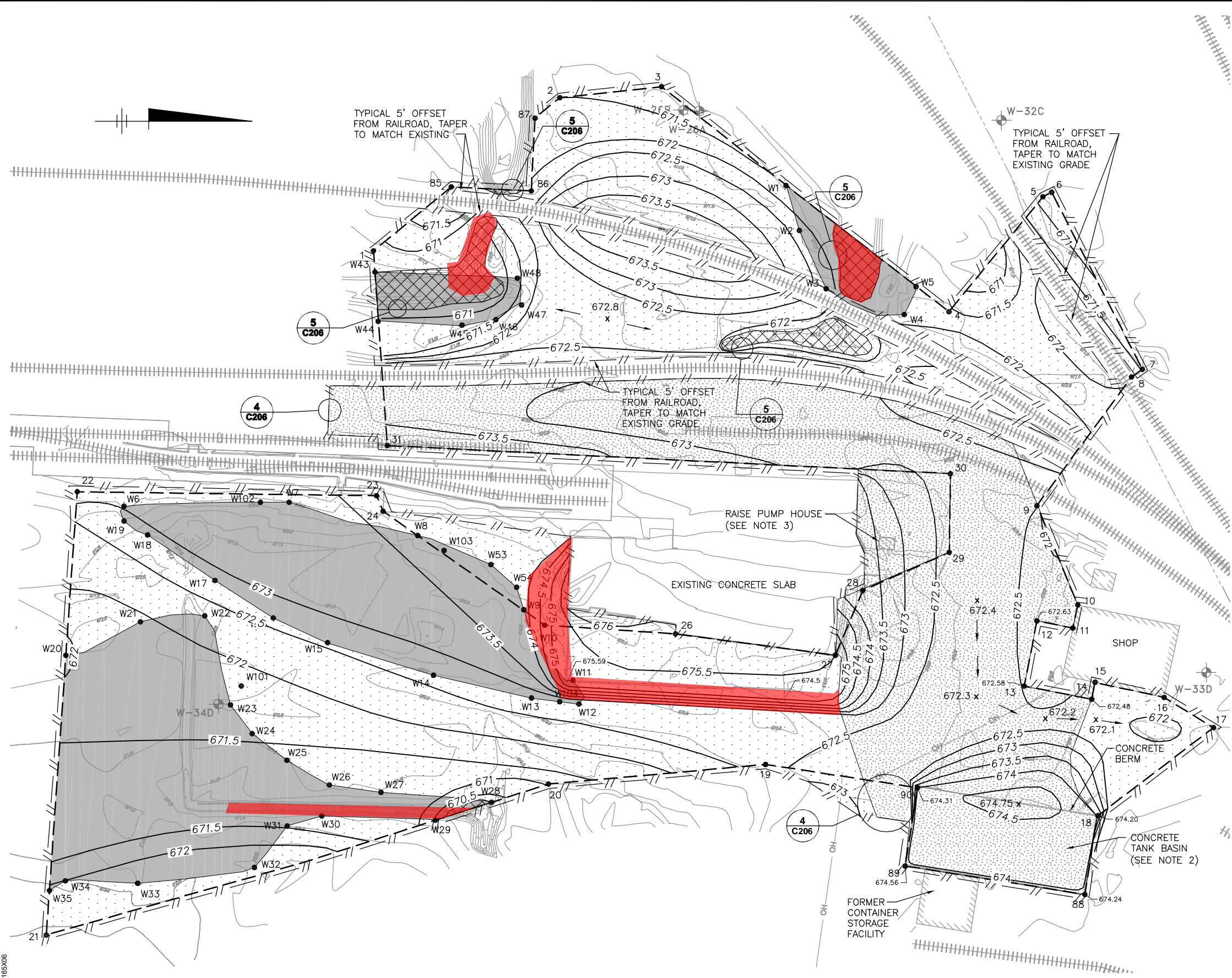
**EROSION CONTROL MATTING**

- A. Use North American Green S150 Double Net Straw Blanket, or approved equivalent.

Submitted By:     Aaron Geyer    

Date:     January 3, 2011

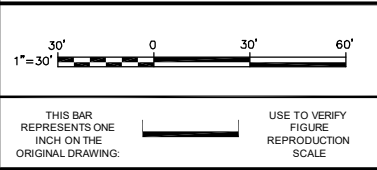
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**LEGEND:**

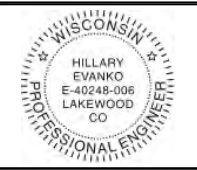
	MONITORING WELL
	KOPPERS INC. FACILITY PROPERTY BOUNDARY
	LIMIT OF 1' SURFACE COVER
	WATER COURSE
	OH OVERHEAD POWER LINE (APPROXIMATE)
	675 EXISTING CONTOUR
	672.48 EXISTING SPOT ELEVATION
	EXISTING RAILROAD LINES
	EXISTING GRAVEL ACCESS ROAD
	PROPOSED LIMITS OF GRADING
	674 PROPOSED ELEVATION CONTOUR
	x672.25 PROPOSED SPOT ELEVATION
	PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
	PROPOSED VEGETATED OR CLAY VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206 OR FIGURE 1, FIELD ORDER NO. 2) - MATCH EXISTING GRADE (SEE NOTE 2)
	PROPOSED ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING C206)
	PROPOSED CLAY VEGETATED SURFACE COVER (SEE FIGURE 1, FIELD ORDER NO. 2)
	20 SURFACE COVER LIMIT (SEE DRAWING C101)
	W1 WETLAND BOUNDARY (SEE DRAWING C101)
	PROPOSED SURFACE WATER FLOW
	5 C206 DETAIL SHEET NUMBER

- NOTES:**
- 1. PREPARE AND LINE CONCRETE TANK BASIN AS DESCRIBED IN DESIGN REPORT PRIOR TO BACKFILLING.
  - 2. MATCH FINAL VEGETATED SURFACE COVER GRADES TO EXISTING GRADES AT DITCHES. EXCAVATE AND FILL AS NECESSARY TO PROTECT EXISTING CULVERTS AT WATER COURSE RAILROAD CROSSINGS.
  - 3. KOPPERS WILL BE RESPONSIBLE FOR RAISING THE PUMP HOUSE BUILDING AND PERFORMING ANY NECESSARY PLUMBING/ELECTRICAL MODIFICATIONS TO MAINTAIN A FUNCTIONAL PUMPING SYSTEM. DO NOT PLACE CUT/FILL GRADING MATERIAL WITHIN THE PUMP HOUSE AREA (I.E., BEYOND THE LIMIT OF 1' SURFACE COVER). USE ROADBASE MATERIAL ONLY IN THIS AREA.



No.	Date	Revisions	By	Ckd
E	9/10	REVISED GRADING	HSI	HME
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name  
**HILLARY EVANKO**  
 Professional Engineer's No.  
 40248-006  
 State: \_\_\_\_\_ Date Signed: \_\_\_\_\_ Project Mgr.: \_\_\_\_\_  
 Designed by: HME Drawn by: HSI Checked by: TEH



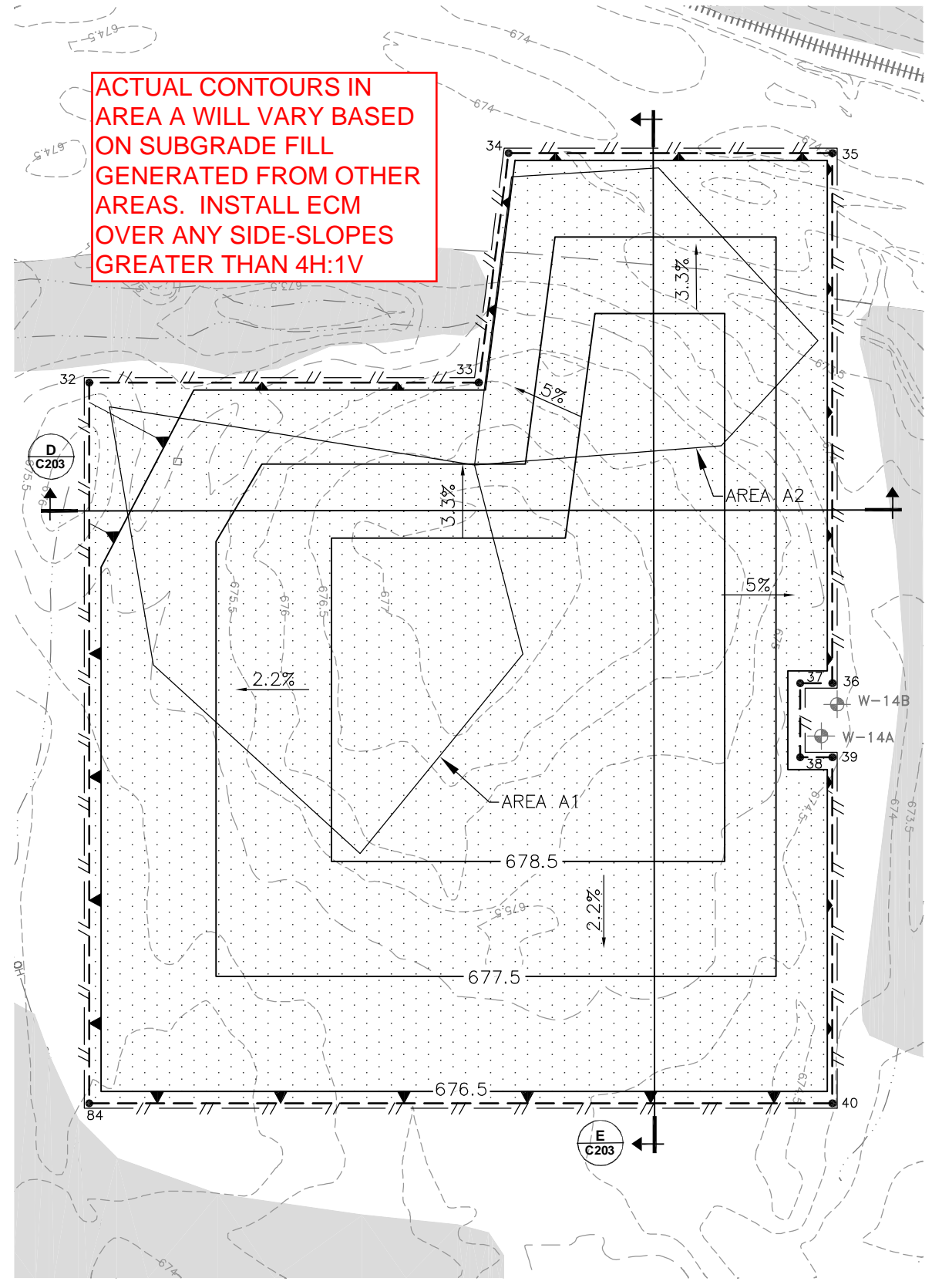
KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
 SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**FINAL GRADING PLAN - AREA B**

ARCADIS Project No.  
 B0039165  
 Date  
 DECEMBER 2009  
 ARCADIS U.S. INC.  
 2929 BRIARPARK DRIVE  
 SUITE 300  
 HOUSTON, TX 77042  
 713-953-4800

**C200**

CITY: DIV/GRP: DB: LD: PIC: PM: TY: LYNONE=OFF=REF: G:\ENVCAD\HOU\STONIACT\B0039165\000000\000\000\000\C202\_C203\_C204\_C205.DWG LAYOUT: C202\_C203\_C204\_C205.DWG ACADVER: 17.05 (LMS TECH) PAGES: 17.05 PLOTTED: 4/30/2010 9:33 AM BY: INNIS, HAYDEN

**ACTUAL CONTOURS IN AREA A WILL VARY BASED ON SUBGRADE FILL GENERATED FROM OTHER AREAS. INSTALL ECM OVER ANY SIDE-SLOPES GREATER THAN 4H:1V**

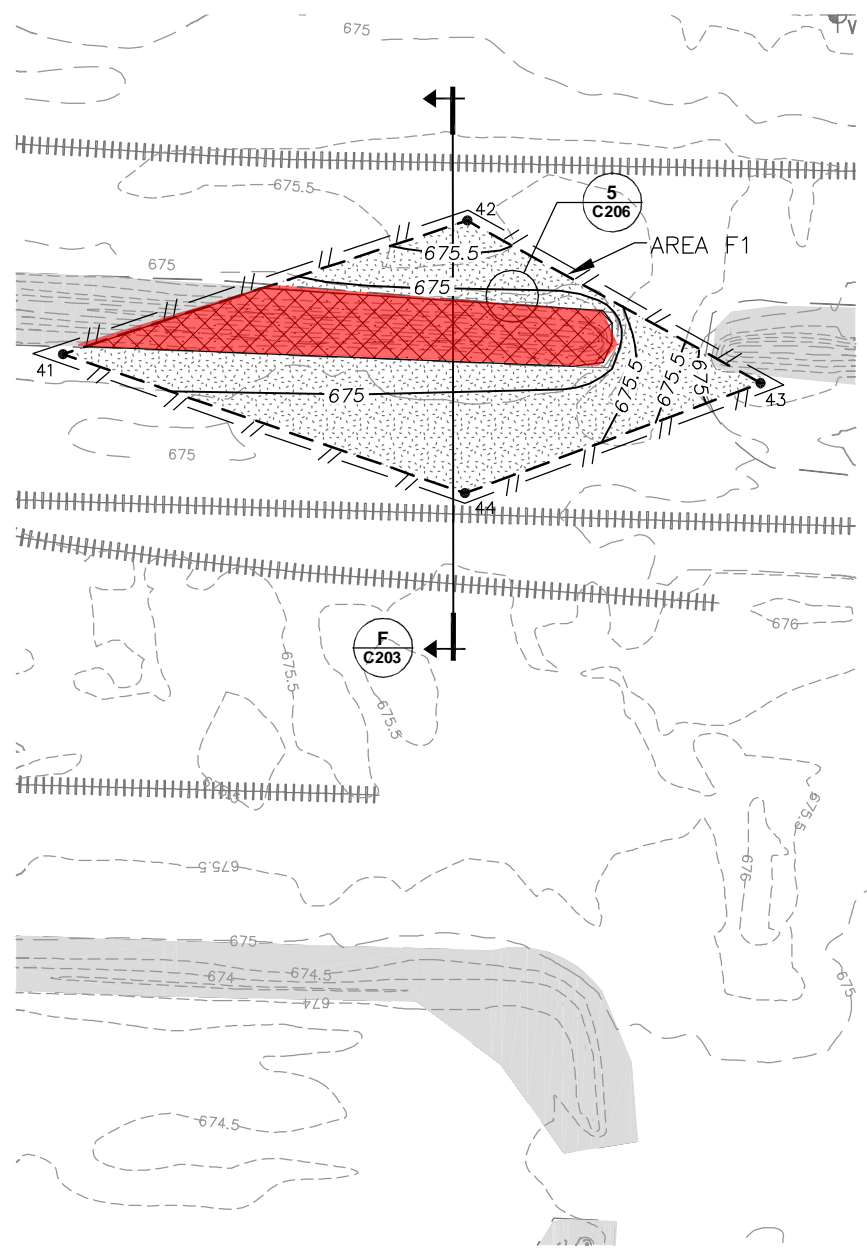


**AREAS A1 & A2**

SCALE: 1" = 30'

**NOTES:**

1. PROPOSED CONTOURS IN AREA A ARE EXPECTED FINAL GRADE CONTOURS. ACTUAL CONTOURS WILL BE BASED ON THE SUBGRADE FILL GENERATED FROM OTHER CORRECTIVE ACTION AREAS. A MINIMUM SLOPE OF 2% WILL BE MAINTAINED TO PROMOTE DRAINAGE.
2. MATCH FINAL VEGETATED SURFACE COVER GRADES TO EXISTING GRADES AT DITCHES. EXCAVATE AND FILL AS NECESSARY TO PROTECT EXISTING CULVERTS AT WATER COURSE CROSSINGS.



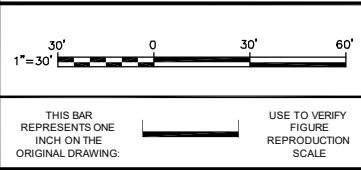
**AREA F1 & F2**

SCALE: 1" = 30'

**LEGEND:**

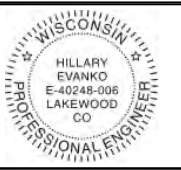
- MONITORING WELL
- LIMIT OF 1' SURFACE COVER
- WETLAND AREA
- WATER COURSE
- OVERHEAD POWER LINE (APPROXIMATE)
- EXISTING CONTOUR
- EXISTING RAILROAD LINES
- EXISTING GRAVEL ACCESS ROAD
- PROPOSED LIMITS OF GRADING
- PROPOSED ELEVATION CONTOUR
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206) - MATCH EXISTING GRADE (SEE NOTE 2)
- PROPOSED ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING C206)
- SURFACE COVER LIMIT/LIMIT OF GRADING (SEE DRAWING C102)
- CROSS-SECTION/DETAIL
- SHEET NUMBER

**Proposed Location of ECM**



No.	Date	Revisions	By	Ckd
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name <b>HILLARY EVANKO</b>		
Professional Engineer's No. 40248-006		
State	Date Signed	Project Mgr.
WI		
Designed by HME	Drawn by HSI	Checked by TEH



KOPPERS INC. FACILITY, BEAZER EAST INC. • SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

**FINAL GRADING PLAN - AREAS A1, A2, F1 & F2**

ARCADIS Project No.  
B0039165

Date  
DECEMBER 2009

ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**C202**



CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYRON=OFF=REF: G:\ENVCAD\HOU\STON\ACT\B0039165\000000000\3D\MG\39165C200\_C202\_C204\_C205.DWG LAYOUT: C205 SAVED: 4/30/2010 11:20 AM ACADVER: 17.05 (LMS TECH) PAGES/SETUP: 17/18 (LMS TECH) PLOTSTYLE/TABLE: PLOTTED: 4/30/2010 3:07 PM BY: INNIS, HAYDEN

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39165X04  
39165X03  
39165X00

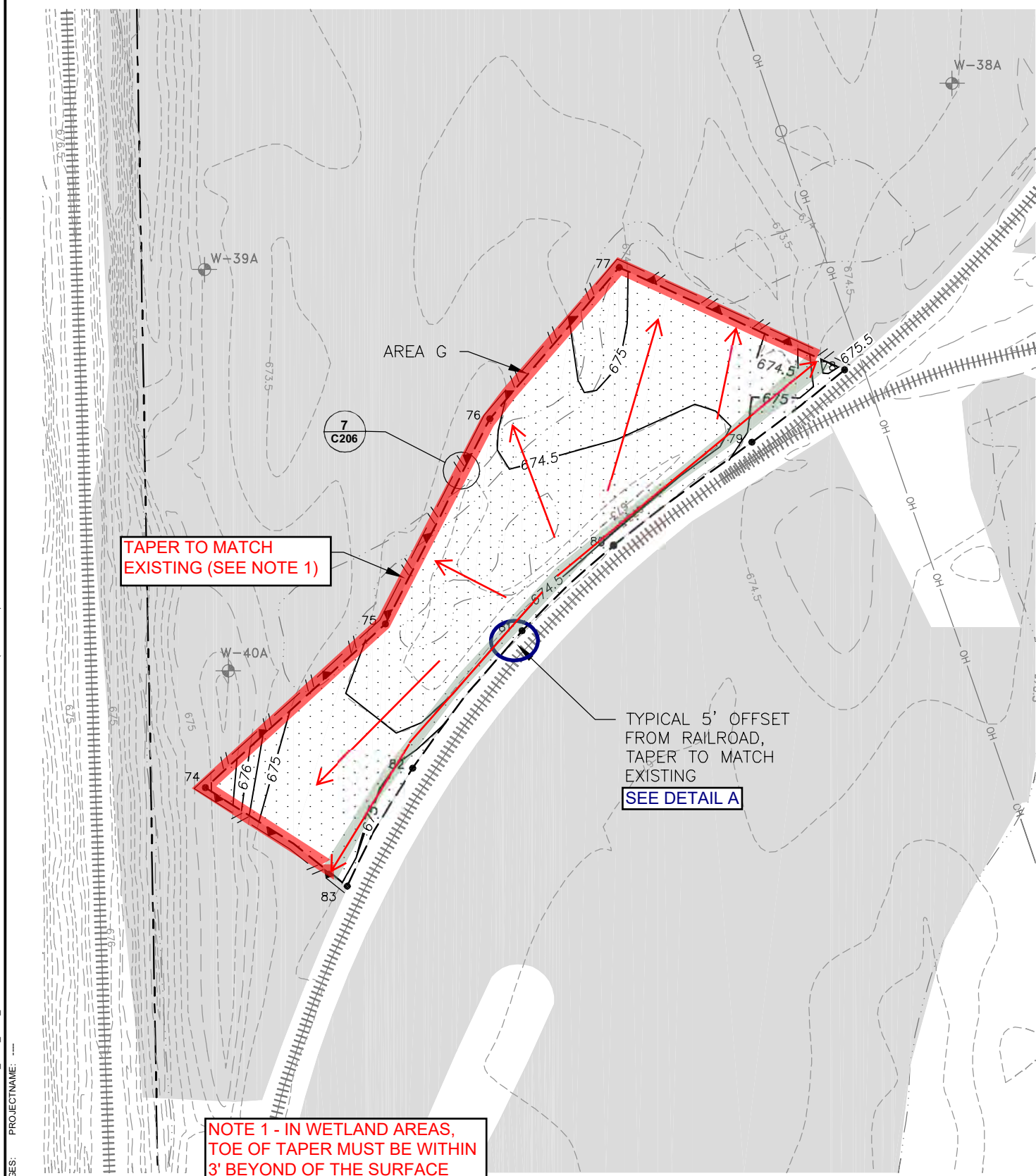
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.  
USE TO VERIFY FIGURE REPRODUCTION SCALE

THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REPRODUCED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.

NOTE 1 - IN WETLAND AREAS, TOE OF TAPER MUST BE WITHIN 3' BEYOND OF THE SURFACE COVER LIMIT.

TAPER TO MATCH EXISTING (SEE NOTE 1)

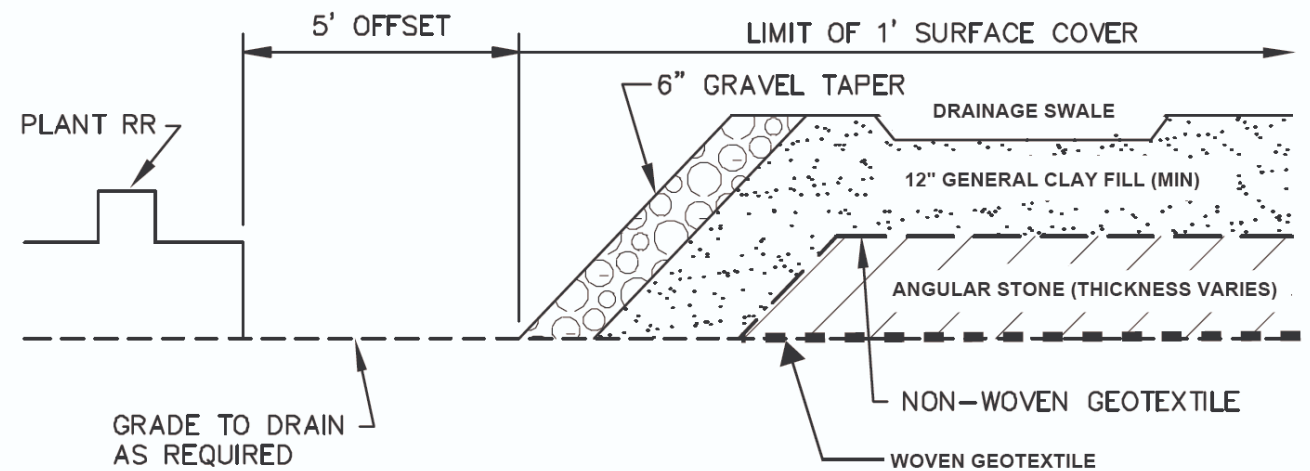
TYPICAL 5' OFFSET FROM RAILROAD, TAPER TO MATCH EXISTING  
SEE DETAIL A



LEGEND:

- MONITORING WELL
- KOPPERS INC. FACILITY PROPERTY BOUNDARY
- LIMIT OF 1' SURFACE COVER
- WETLAND AREA
- WATER COURSE
- OVERHEAD POWER LINE (APPROXIMATE)
- EXISTING CONTOUR
- EXISTING RAILROAD LINES
- PROPOSED LIMITS OF GRADING
- PROPOSED ELEVATION CONTOUR
- PROPOSED VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING C206)
- SURFACE COVER LIMIT (SEE C104)
- PROPOSED SURFACE WATER FLOW DIRECTION
- PROPOSED DRAINAGE SWALE
- Proposed Location of ECM

DETAIL A - TYPICAL OFFSET FROM RR TRACK



No.	Date	Revisions	By	Ckd
D	4/10	REVISED GRADING. ISSUED FOR PRICING.	HSI	HME
C	12/09	AGENCY SUBMITTAL	HSI	HME
B	12/09	KOPPER/BEAZER REVIEW	HSI	HME
A	09/09	DRAFT REVIEW	HSI	HME

Professional Engineer's Name <b>HILLARY EVANKO</b>			
Professional Engineer's No. 40248-006			
State	Date Signed	Project Mgr.	
-	-	-	
Designed by	Drawn by	Checked by	
HME	HSI	TEH	



KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**FINAL GRADING PLAN - AREA G**

ARCADIS Project No. B0039165	<b>C205</b>
Date DECEMBER 2009	
ARCADIS U.S. INC. 2929 BRIARPARK DRIVE SUITE 300 HOUSTON, TX 77042 713-953-4800	

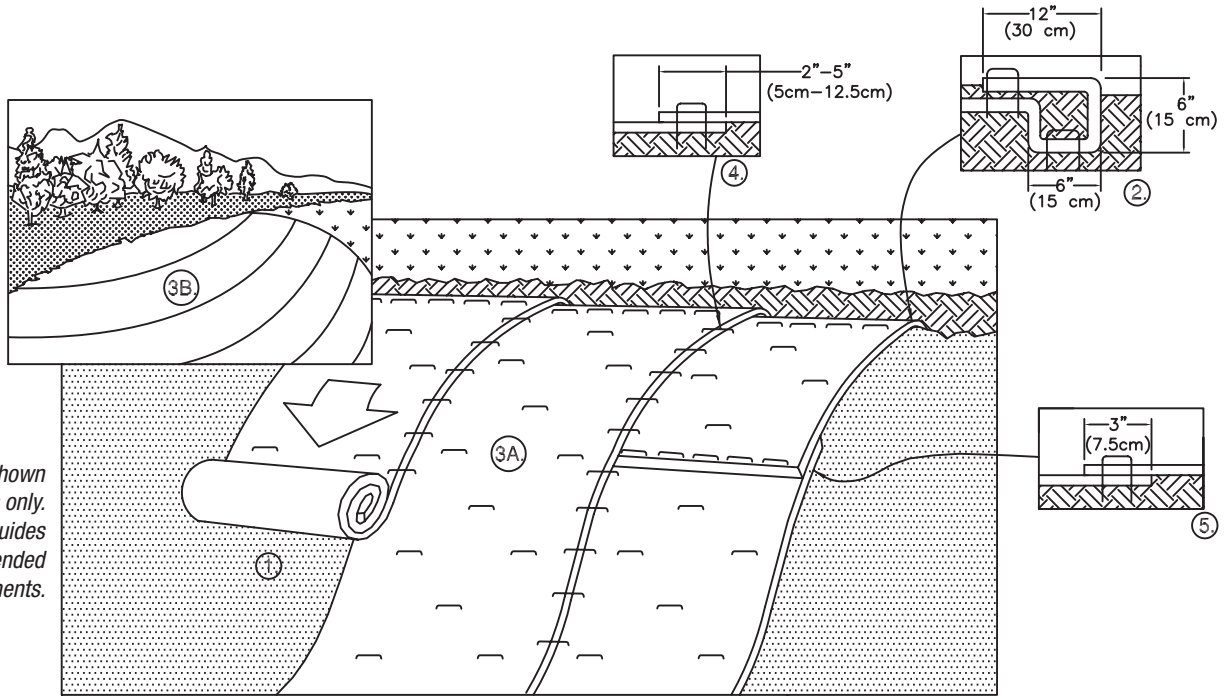


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## SLOPE INSTALLATION APLICACIONES PARA TALUDES



*Staple placements shown  
for illustrative purposes only.  
See Staple Pattern Guides  
for actual recommended  
placements.*

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.

NOTE:  
\*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

1. PREPARE EL TERRENO ANTES DE INSTALAR LAS MANTAS, INCLUYENDO LA APLICACION DE CAL, FERTILIZANTE Y SEMILLA.
2. COMIENCE EN LA CABECERA DEL TALUD SUJETANDO LA MANTA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD FOR 6" (15 CM) DE ANCHO CON APROXIMADAMENTE 12" (30 CM) DE LA MANTA EXTENDIDA MAS ALLA DE LA PENDIENTE ALTA DE LA ZANJA. SUJETE LA MANTA AL FONDO DE LA ZANJA CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE 12" (30 CM) UNA DE LA OTRA. RELLENE Y COMPACTE LA ZANJA DESPUES DEL ENGRAPE. RIEGE LA SEMILLA EN EL SUELO COMPACTADO Y DOBLE LAS 12" (30 CM) REMANENTES DE MANTA SOBRE LA SEMILLA EL SUELO COMPACTADO. ASEGURE LA MANTA SOBRE EL SUELO CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE 12" (30 CM) UNA DE LA OTRA A TRAVES DEL ANCHO DE LA MANTA.
3. DESENNOLLE LAS MANTAS (3A) HACIA ABAJO U (3B) HORIZONTAMENTE A TRAVES DEL TALUD CON EL LADO APROPIADO HACIA LA SUPERFICIE DEL SUELO. TODAS LAS MANTAS DEBERAN ASEGURARSE A LA SUPERFICIE DEL SUELO POR MEDIO DE GRAPAS O ESTACAS EN LUGARES APROPIADOS TAL Y COMO SE INDICA EN EL PATRON GUIA DE ENGRAPADO. CUANDO ESTE USANDO EL DOT SYSTEM™ LAS GRAPAS O ESTACAS DEBEN COLOCARSE A TRAVES DE CADU UNDO DE LOS PUNTOS CON COLOR CORRESPONDIENTES AL PATRON DE ENGRAPADO APROPIADO.
4. LOS BORDES DE LAS MANTAS PARALELAS TIENEN QUE ENGRAPARSE CON UN TRASLAPE DE APROXIMADAMENTE 2" – 5" (5 CM – 12.5 CM) DEPENDIENDO DEL TIPO DE MANTA.
5. MANTAS CONSECUTIVAS UNIDAS EN LA BAJADA DE LOS TALUDES, DEBEN COLOCARSE ORILLA SOBRE ORILLA (TIPO EXCALONADO) CON UN TRASLAPE DE APROXIMADAMENTE 3" (7.5 CM). ENGRAPE EL AREA TRASLAPADA CON UNA SEPARACION DE APROXIMADAMENTE 12" (30 CM) A TRAVES DE TODO EL ANCHO DE LA MANTA.

NOTA:  
\* EN CONDICIONES DE SUELTO, PUEDE QUE SE NECESITEN GRAPAS O ESTACAS DE MAS DE 6" (15 CM) DE LARGO PARA ASEGURAR LAS MANTAS CORRECTAMENTE.

**Attachment B**

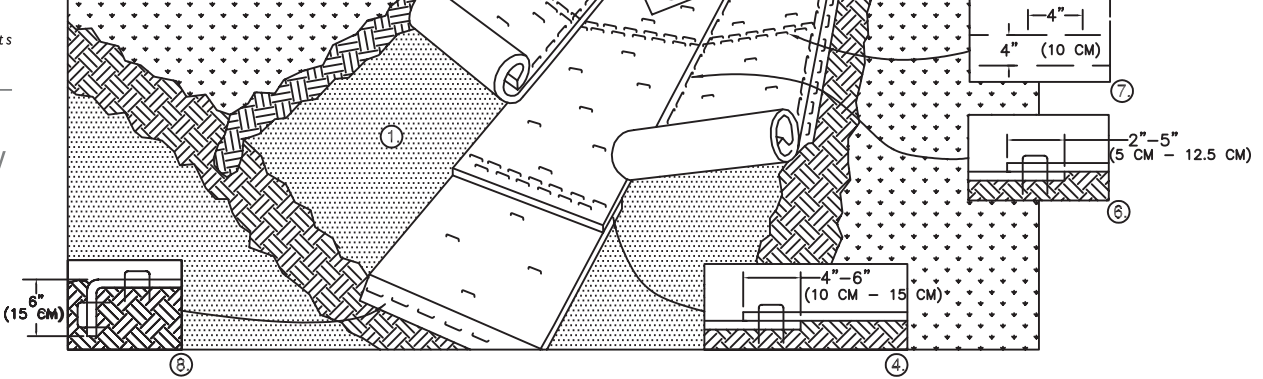
North American Green – Installation  
Instructions, Drainage Channels



# CHANNEL INSTALLATION

## APLICACIONES PARA CANALES

Staple placements shown for illustrative purposes only. See Staple Pattern Guides for actual recommended placements.



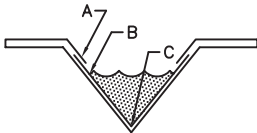
A **tensar** Company

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EVANSVILLE, IN 47725  
800-772-2040  
www.nagreen.com

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

**NOTE:**

\* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



**CRITICAL POINTS**

- A. OVERLAPS AND SEAMS
- B. PROJECTED WATER LINE
- C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

**NOTE:**

\* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

\*\* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

**PUNTOS CRITICOS**

- A. TRASLAPES Y JUNTAS
- B. LINEAS DE AGUA PROYECTADA
- C. FONDO DEL CANAL/VERTICES DE LAS PENDIENTES LATERALES

**NOTA:**

\* LA SEPARACION HORIZONTAL DE LAS GRAPAS SE DEBE ALTERAR SI SE NECESITA, PARA PERMITIR QUE LAS GRAPAS ASEGUEN LOS PUNTOS CRITICOS A LO LARGO DE LA SUPERFICIE DEL CANAL.

\*\* EN CONDICIONES DE SUELO SUELTO, PUEDE QUE SE NECESITEN GRAPAS O ESTACAS DE MAS DE 6" (15 CM) DE LARGO PARA ASEGURAR LAS MANTAS CORRECTAMENTE.

1. PREPARE EL SUELO DE COLOCAR LAS MANTAS, INCLUYENDO LA APLICACION DE CAL, FERTILIZANTE SEMILLA.
2. COMIENCE EN LA CABECERA DEL CANAL SUJETANDO LA MANTA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD POR 6" (15 CM). DE ANCHO CON APROXIMADAMENTE 12" (30 CM) DE LA MANTA EXTENDIDA MAS ALLA DE LA PENDIENTE ALTA DE LA ZANJA. SUJETE RELLENE Y COMPACTE LA ZANJA DESPUES DEL ENGRAPADO. RIEGUE LA SEMILLA EN EL SUELO COMPACTADO Y DOBLE LAS 12" (30 CM) REMANENTES DE MANTA SOBRE LA SEMILLA Y EL SUELO COMPACTADO. ASEGURE LA MANTA SOBRE EL SUELO CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE 12" (30 CM) UNA DE LA OTRA A TRAVES DEL ANCHO DE LA MANTA.
3. DESENROLLE LA MANTA DEL MEDIO EN EL FONDO DEL CANAL Y EN LA DIRECCION DEL FLUJO DE AGUA CON EL LADO APROPIADO HACIA LA SUPERFICIE DEL SUELO. TODAS LAS MANTAS DEBERAN ASEGURARSE A LA SUPERFICIE DEL SUELO POR MEDIO DE GRAPAS O ESTACAS EN LUGARES APROPIADOS TAL Y COMO SE INDICA EN EL PATRON GUIA DE ENGRAPADO. CUANDO ESTE USANDO EL DOT SYSTEM™, LAS GRAPAS O ESTACAS DEBEN COLOCARSE A TRAVES DE CADA UNO DE LOS PUNTOS CON COLOR CORRESPONDIENTES AL PATRON DE ENGRAPADO APROPIADO.
4. COLOQUE LAS MANTAS CONSECUTIVAS BORDE SOBRE BORDE (TIPO ESCALONADO) CON UN TRASLAPE DE 4" - 6" (10 CM - 15 CM). USE UNA LINEA DOBLE DE GRAPAS ESCALONADAS, SEPARADAS POR 4" (10 CM) Y CADA 4" (10 CM) SOBRE EL CENTRO PARA ASEGURAR LAS MANTAS.
5. EN EL TOPE DE LAS DOS PENDIENTES LATERALES DEL CANAL, SE DEBE SUJETAR TODO EL LARGO DE LA ORILLA DE LAS MANTAS CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE CADA 12" (30 CM) UNA DE LA OTRA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD POR 6" (15 CM) DE ANCHO. RELLENE Y COMPACTE LA ZANJA DESPUES DEL ENGRAPADO.
6. LAS MANTAS ADYACENTES DEBEN TRASLAPARSE APROXIMADAMENTE DE 2" - 5" (5 CM - 12.5 CM) (DEPENDIENDO DEL TIPO DE MANTA) Y ENGRAPARSE.
7. EN APLICACIONES PARA CANALES DE FLUJO ALTO, SE RECOMIENDA DEJAR UNA RANURA PARA EL CHEQUEO DE LAS GRAPAS A INTERVALOS DE 30 A 40 PIES (9 M - 12 M). USE UNA LINEA DOBLE DE GRAPAS ESCALONADAS, SEPARADAS POR 4" (10 CM) Y CADA 4" (10 CM) SOBRE EL CENTRO A TRAVES DE TODO EL ANCHO DEL CANAL.
8. LOS BORDES FINALES DE LAS MANTAS DEBEN SUJETARSE CON UNA LINEA DE GRAPAS O ESTACAS APROXIMADAMENTE CADA 12" (30 CM) UNA DE LA OTRA EN UNA ZANJA DE 6" (15 CM) DE PROFUNDIDAD POR 6" (15 CM) DE ANCHO. RELLENE Y COMPACTE DESPUES DEL ENGRAPADO.

**NOTA:**

\* EN CONDICIONES DE SUELO SUELTO, PUEDE QUE SE NECESITEN GRAPAS O ESTACAS DE MAS DE 6" (15 CM) DE LARGO PARA ASEGURAR LAS MANTAS CORRECTAMENTE.

ARCADIS

**Attachment C**

Mulching - Installation Instructions

# Mulching For Construction Sites (1058)

Wisconsin Department of Natural Resources  
Conservation Practice Standard

## I. Definition

Mulching is the application of organic material to the soil surface to protect it from raindrop impact and overland flow. Mulch covers the soil and absorbs the erosive impact of rainfall and reduces the flow velocity of runoff.

## II. Purpose

This practice may be used to:

- Reduce soil erosion
- Aid in seed germination and establishment of plant cover
- Conserve soil moisture

## III. Conditions Where Practice Applies

This practice may be applied on exposed soils as a temporary control where soil grading or landscaping has taken place or in conjunction with temporary or permanent seeding. Mulching is generally not appropriate in areas of concentrated flow.

## IV. Federal, State, and Local Laws

Users of this standard shall comply with applicable federal, state and local laws, rules, regulations or permit requirements governing mulching. This standard does not contain the text of federal, state, or local laws.

## V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

### A. Site Preparation:

Soil surface shall be prepared prior to the application of mulch in order to achieve the desired purpose and to ensure optimum contact between soil and mulch. All areas to be mulched shall be reasonably free of rills and gullies.

### B. Materials:

Mulch shall consist of natural biodegradable material such as plant residue (including but not limited to straw, hay, wood chips, bark and wood cellulose fiber), or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended effect for the required time period.

Mulch shall be environmentally harmless to wildlife and plants. Materials such as gravel, plastic, fabric, sawdust, municipal solid waste, *solid waste byproducts*<sup>1</sup>, shredded paper, and non-biodegradable products shall not be used.

Mulch shall be free of diseased plant residue (i.e. oak wilt), *noxious weed* seeds, harmful chemical residues, heavy metals, hydrocarbons and other known environmental toxicants.

Marsh hay shall not be used as mulch in lowland areas but may be used on upland sites to prevent the spread of invasive, non-native species (i.e. reed canary grass) commonly found in marsh hay.

Straw and hay mulch that will be crimped shall have a minimum fiber length of 6 inches.

<sup>1</sup> Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

Wood chips or wood bark shall only be used for sites that are not seeded.

C. Application Rate:

1. Mulch shall cover a minimum of 80% of the soil surface for unseeded areas. For seeded areas, mulch shall be placed loose and open enough to allow some sunlight to penetrate and air to circulate but still cover a minimum of 70% of the soil surface.
2. Mulch shall be applied at a uniform rate of 1½ to 2 tons per acre for sites that are seeded, and 2 to 3 tons per acre for sites that are not seeded. This application results in a layer of ½ to 1½ inches thick for seeded sites, and 1½ to 3 inches thick for sites not seeded.
3. Wood chips or wood bark shall be applied at a rate of 6 to 9 tons per acre to achieve a minimum of 80% ground cover. This application should result in a layer of wood chips or wood bark ½ to 1½ inches thick.

D. Mulch Anchoring Methods

Anchoring of mulch shall be based on the type of mulch applied, site conditions, and accomplished by one of the following techniques:

1. Crimping

Immediately after spreading, the mulch shall be anchored by a mulch crimper or equivalent device consisting of a series of dull flat discs with notched edges spaced approximately 8 inches apart. The mulch shall be impressed in the soil to a depth of 1 to 3 inches.

2. Polypropylene Plastic, or Biodegradable Netting

Apply plastic netting over mulch application and staple according to manufacturer's recommendations.

3. Tackifier

Tackifier shall be sprayed in conjunction with mulch or immediately

after the mulch has been placed. Tackifiers must be selected from those that meet the WisDOT Erosion Control Product Acceptability List (PAL). Asphalt based products shall not be applied.

The tackifiers shall be applied at the following minimum application rates per acre:

- a. Latex-Base: mix 15 gallons of adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as a tracer with 375 gallons of water.
- b. Guar Gum: mix 50 pounds of dry adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as tracer with 1,300 gallons of water.
- e. Other Tackifiers: (Hydrophilic Polymers) mix 100 pounds of dry adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as a tracer with 1,300 gallons of water.

**VI. Considerations**

- A. Wood products typically absorb available soil nitrogen as they degrade, thus making it unavailable for seed.
- B. The use of mulch behind curb and gutter may not be desirable unless anchored by netting, because air turbulence from nearby traffic can displace the mulch. Consider the use of erosion mat or sod as an alternative.
- C. In areas where lawn type turf will be established, the use of tackifiers is the preferred anchoring method. Crimping will tend to leave an uneven surface and plastic netting can become displaced and entangled in mowing equipment.

- D. A heavier application of mulch may be desired to prevent seedlings from being damaged by frost.
- E. It may be beneficial to apply polyacrylimide in addition to mulch. Refer to WDNR Conservation Practice Standard (1050) Erosion Control Land Application of Anionic Polyacrylamide for information about the advantages and proper use of polymers.
- F. Concentrated flows above the site where mulch is applied should be diverted.
- G. Mulch should be placed within 24 hours of seeding.
- H. Mulching operations should not be performed during periods of excessively high winds that would preclude the proper placement of mulch.
- I. Materials such as gravel may be effective for erosion control but are not considered mulches.

## VII. Plans and Specifications

- A. Plans and specifications for mulching shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:
  - 1. Type of mulch used
  - 2. Application rate
  - 3. Timing of application
  - 4. Method of anchoring
- B. All plans, standard detail drawings, or specifications shall include schedules for installation, inspection, and maintenance. The responsible party shall be identified.

## VIII. Operation and Maintenance

Mulch shall, at a minimum, be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period.

Mulch that is displaced shall be reapplied and properly anchored. Maintenance shall be completed as soon as possible with consideration to site conditions.

## IX. References

WisDOT's Erosion Control Product Acceptability List (PAL) can be found on the WisDOT web site: <http://www.dot.wisconsin.gov/business/engrserv/pal.htm> Printed copies are no longer being distributed.

## X. Definitions

*Noxious weed* (V.B): Any weed a governing body declares to be noxious within its respective boundaries. The State of Wisconsin list of noxious weeds can be found in Statute 66.0407.

*Solid Waste Byproducts* (V.B): Includes industrial, commercial, residential, and agricultural wastes that have been processed, incinerated, or composted and still contain inorganic wastes such as glass and metals and organic wastes including plastics, textiles, rubber, leather, and other miscellaneous organic wastes which may be toxic or hazardous in nature.

**FIELD ORDER NO. 007, January 19, 2011**

**PROJECT:** Surface Covers and Outfall 001 Drainage Ditch Liner System

**SITE:** Koppers Inc. Facility, Superior, Wisconsin

**OWNER:** Beazer East, Inc. (Beazer)

**CONTRACTOR:** Severson Environmental Services, Inc.  
Mason Wheeler, Jr.  
Rob Kudela

**ENGINEER:** ARCADIS

**COPIES TO:** Jane Patarcity, Beazer  
Michael Slenska, Beazer  
Jeffrey Holden, ARCADIS  
David Bessingpas, ARCADIS  
Troy Hopper, ARCADIS  
Cole Raesner, ARCADIS  
Aaron Geyer, ARCADIS

**TO THE CONTRACTOR:** Beazer East, Inc. has requested the Contractor to review the following adjustments to the surface cover design. Any changes in cost or schedule should be noted to Beazer.

**BACKGROUND:**

This Field Order No. 7 has been prepared to expand the original scope of work (SOW) associated with the operation of the onsite wastewater treatment plant (WWTP) and the disposal of treated surface water at the site.

The original SOW called for a WWTP that was comprised of two frac tanks, two charged activated carbon filters (2 ton vessels), one sediment trap (with 25-micron sock filters), and the on-Site discharge of treated water.

**ACTION ITEMS:**

The WWTP that was outlined in the original SOW was not sufficient to treat the entire volume of impacted waters generated over the course of construction activities. Therefore, the SOW shall be expanded to include the following:

- One additional frac tank;
- One carbon change out;
- Use of a manlift during carbon change out operations;
- Additional 10-micron and 1-micron filters for the sediment trap;

- Transportation to and disposal of treated water at the local POTW; and
- Cleaning of the frac tanks during decommissioning of the WWTP.

**Submitted By:** Cole Raesner, EIT

**Date:** January 19, 2011



## **Appendix B**

Contractor Submittal Register



**Appendix B**  
**Submittal Tracking Table**  
**On-Property Corrective Measures Implementation**  
**Koppers Inc. Facility - Superior, WI**

<b>Item No.</b>	<b>Submittal Description</b>	<b>Date Received</b>	<b>Status</b>	<b>Notes</b>	<b>Attached</b>
1a	General Fill - Name of Supplier	7/27/2010	APPROVED	Source: Pattison Park Pit, Douglas County, WI	
1b	Clay General Fill - Name of Supplier and Gradation	8/5/2010	APPROVED	Source: Syring's Field, Douglas County, WI	X
1c	Topsoil - Name of Supplier	8/5/2010	APPROVED	Source: Hagman Road, Solon Springs, Douglas County, WI	
2	Stone for Stone Tracking Pad - Name of Supplier and Gradation	N/A	N/A	Approved visually on-site. Source: Thunderhill Quarry, Douglas County, WI	
3	Road Base Gravel - Name of Supplier and Gradation	7/19/2010	APPROVED	Source: Thunderhill Quarry, Douglas County, WI	X
4	Washed Pea Gravel - Name of Supplier and Gradation	7/19/2010	APPROVED	Source: Coons Aggregate Supply, Saginaw, MN	X
5	Gabion Mattress Stone - Name of Supplier and Gradation	N/A	N/A	Approved visually on-site. Source: Thunderhill Quarry, Douglas County, WI	
6a	Stone for Taper Layers - Name of Supplier and Gradation	7/19/2010	APPROVED	Source: Thunderhill Quarry, Douglas County, WI	X
6b	Stone for Areas G, H, S1 and S2 "bridging" - Name of Supplier and Gradation	N/A	N/A	Approved visually on-site. Source: Thunderhill Quarry, Douglas County, WI	
6c	Riprap for Outfall 001 Drainage Ditch - Name of Supplier and Gradation	7/19/2010	APPROVED	Source: Thunderhill Quarry, Douglas County, WI	X

**Appendix B**  
**Submittal Tracking Table**  
**On-Property Corrective Measures Implementation**  
**Koppers Inc. Facility - Superior, WI**

<b>Item No.</b>	<b>Submittal Description</b>	<b>Date Received</b>	<b>Status</b>	<b>Notes</b>	<b>Attached</b>
7	Non-Woven Geotextile - Manufacturer's Product Information	7/15/2010	APPROVED	Propex 801 does not meet puncture and mullen burst specs, but approved. Source: Propex Geosynthetics, Athens, GA	X
8a	Woven Geotextile - Manufacturer's Product Information	7/15/2010	APPROVED	Source: Propex Geosynthetics, Athens, GA	X
8b	Woven Geotextile for Areas G, H, S1 and S2 "bridging" - Manufacturer's Product Information	8/10/2010	APPROVED	Source: SKAPS Industries, Pendergrass, GA	X
9	Reactive Core Mat - Manufacturer's Product Information	7/14/2010	APPROVED	Source: CETCO, Lovell Plant, Lovell, WY	X
10	Organoclay - Manufacturer's Product Information	7/14/2010	APPROVED	Source: Nanocor Plant, Aberdeen, MS	X
11	Native Seed Mix - Seed tag	9/15/2010	APPROVED	Source: Deer Creek Seed, Ashland, WI	X
12	Soil Markers - Manufacturer's Product Information	11/19/2010	APPROVED	Source: Berntsen Custom Identification Products	X

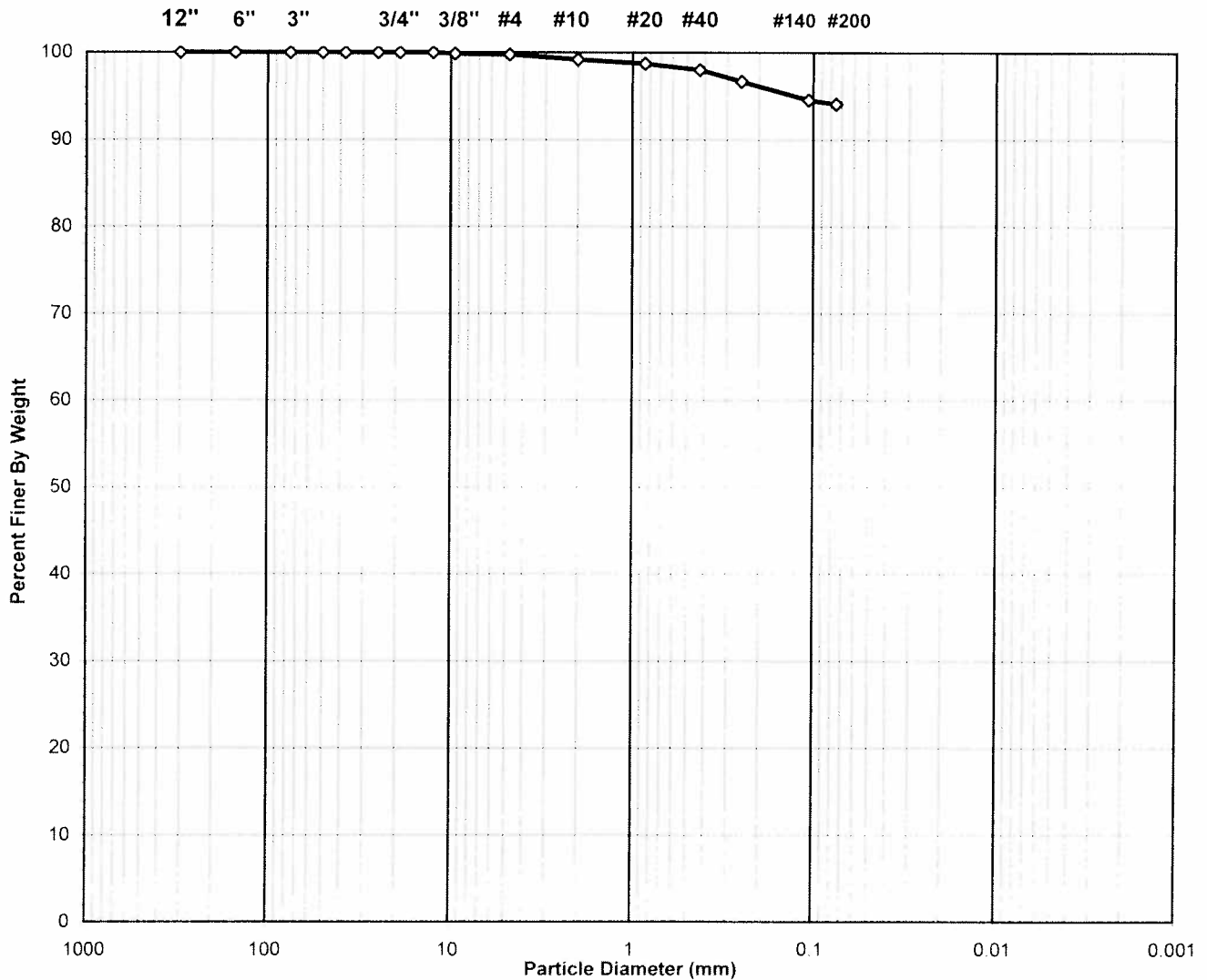
**Submittal 1b**

General Fill Gradation

**SIEVE ANALYSIS**  
ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	ARCADIS	Boring No.	7/27/10
Client Reference	KOPPERS - SUPERIOR WI	Depth (ft)	NA
Project No.	2010-366-02	Sample No.	CLAY-1
Lab ID	2010-366-02-01	Soil Color	<b>BROWN</b>

<b>USCS</b>	<b>SIEVE ANALYSIS</b>		<b>HYDROMETER</b>
	gravel	sand	silt and clay



**USCS Symbol**      **CH, TESTED**

**USCS Classification**    **FAT CLAY**

Tested By DB      Date 8/3/10      Checked By KB      Date 8-4-10

### WASH SIEVE ANALYSIS

ASTM D 422-63/AASHTO T88-00 (SOP-S3)

Client	ARCADIS	Boring No.	7/27/10
Client Reference	KOPPERS - SUPERIOR WI	Depth (ft)	NA
Project No.	2010-366-02	Sample No.	CLAY-1
Lab ID	2010-366-02-01	Soil Color	<b>BROWN</b>

Moisture Content of Passing 3/4" Material		Water Content of Retained 3/4" Material	
Tare No.	947	Tare No.	NA
Wgt. Tare + Wet Specimen (gm)	1048.50	Wgt. Tare + Wet Specimen (gm)	NA
Wgt. Tare + Dry Specimen (gm)	794.60	Wgt. Tare + Dry Specimen (gm)	NA
Weight of Tare (gm)	101.89	Weight of Tare (gm)	NA
Weight of Water (gm)	253.90	Weight of Water (gm)	NA
Weight of Dry Soil (gm)	692.71	Weight of Dry Soil (gm)	NA
<b>Moisture Content (%)</b>	<b>36.7</b>	<b>Moisture Content (%)</b>	<b>NA</b>

Wet Weight -3/4" Sample (gm)	NA	Weight of the Dry Specimen (gm)	692.71
Dry Weight - 3/4" Sample (gm)	41.0	Weight of minus #200 material (gm)	651.68
Wet Weight +3/4" Sample (gm)	NA	Weight of plus #200 material (gm)	41.03
Dry Weight + 3/4" Sample (gm)	0.00		
Total Dry Weight Sample (gm)	NA		

Sieve Size	Sieve Opening (mm)	Wgt. of Soil Retained (gm)	Percent Retained (%)	Accumulated Percent Retained (%)	Percent Finer (%)	Accumulated Percent Finer (%)
12"	300	0.00	0.00	0.00	100.00	100.00
6"	150	0.00	0.00	0.00	100.00	100.00
3"	75	0.00	0.00	0.00	100.00	100.00
2"	50	0.00	0.00	0.00	100.00	100.00
1 1/2"	37.5	0.00	0.00	0.00	100.00	100.00
1"	25.0	0.00	0.00	0.00	100.00	100.00
3/4"	19.0	0.00	0.00	0.00	100.00	100.00
1/2"	12.50	0.00	0.00	0.00	100.00	100.00
3/8"	9.50	1.02	0.15	0.15	99.85	99.85
#4	4.75	0.68	0.10	0.25	99.75	99.75
#10	2.00	3.80	0.55	0.79	99.21	99.21
#20	0.850	3.35	0.48	1.28	98.72	98.72
#40	0.425	4.92	0.71	1.99	98.01	98.01
#60	0.250	9.18	1.33	3.31	96.69	96.69
#140	0.106	14.78	2.13	5.45	94.55	94.55
#200	0.075	3.30	0.48	5.92	94.08	94.08
Pan	-	651.68	94.08	100.00	-	-

Tested By DB Date 8/3/10 Checked By *KB* Date 8-4-10

### ATTERBERG LIMITS

ASTM D 4318-10 / AASHTO T89 (SOP - S4A)

Client	ARCADIS	Boring No.	7/27/10
Client Reference	KOPPERS - SUPERIOR WI	Depth (ft)	NA
Project No.	2010-366-02	Sample No.	CLAY-1
Lab ID	2010-366-02-01	Soil Description	<b>REDDISH BROWN FAT CLAY</b>

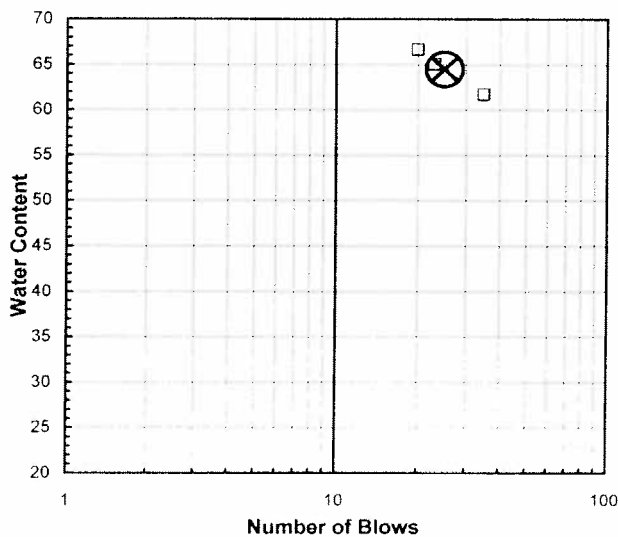
*Note: The USCS symbol used with this test refers only to the minus No. 40 sieve material. (Minus No. 40 sieve material, Airdried) See the "Sieve and Hydrometer Analysis" graph page for the complete material description.*

Liquid Limit Test	1	2	3	
Tare Number	350	282	312	<b>M</b>
Wt. of Tare & WS (gm)	41.08	40.86	43.33	<b>U</b>
Wt. of Tare & DS (gm)	32.39	31.91	33.72	<b>L</b>
Wt. of Tare (gm)	18.30	18.14	19.29	<b>T</b>
Wt. of Water (gm)	8.7	9.0	9.6	<b>I</b>
Wt. of DS (gm)	14.1	13.8	14.4	<b>P</b>
				<b>O</b>
				<b>I</b>
<b>Moisture Content (%)</b>	<b>61.7</b>	<b>65.0</b>	<b>66.6</b>	<b>N</b>
<b>Number of Blows</b>	<b>35</b>	<b>23</b>	<b>20</b>	<b>T</b>

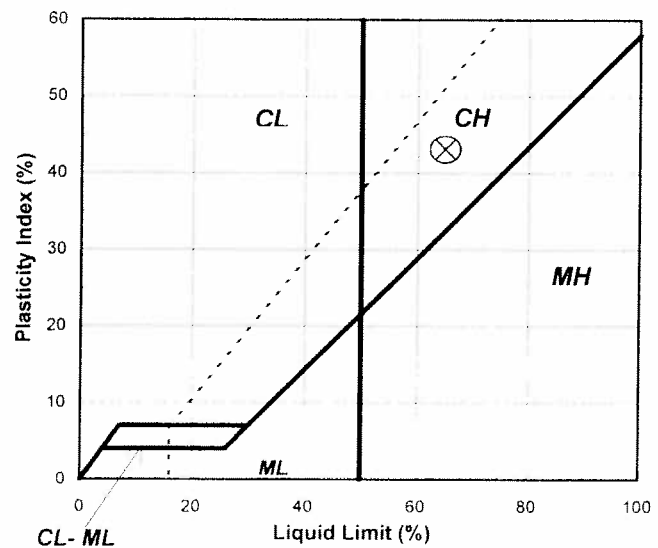
Plastic Limit Test	1	2	Range	Test Results
Tare Number	314	274		Liquid Limit (%) <b>65</b>
Wt. of Tare & WS (gm)	24.79	26.43		Plastic Limit (%) <b>22</b>
Wt. of Tare & DS (gm)	23.60	25.27		Plasticity Index (%) <b>43</b>
Wt. of Tare (gm)	18.14	19.94		USCS Symbol <b>CH</b>
Wt. of Water (gm)	1.2	1.2		
Wt. of DS (gm)	5.5	5.3		
<b>Moisture Content (%)</b>	<b>21.8</b>	<b>21.8</b>	<b>0.0</b>	

*Note: The acceptable range of the two Moisture contents is  $\pm 2.6$*

Flow Curve



Plasticity Chart



Tested By TO Date 8/3/10 Checked By WB Date 8-4-10

page 1 of 1 DCN: CT-S4B DATE: 12/20/06 REVISION: 3

**Submittal 3**

Road Base Gravel Gradation

PRECISION TESTING, INC.  
 5559 Enterprise Drive NE  
 Virginia, MN 55792  
 218-741-0555 phone  
 218-741-0556 fax



May 20, 2010

**LABORATORY SIEVE ANALYSIS REPORT**

PROJECT: Hoover  
 CLIENT JOB # 2010-04  
 SAMPLE ID#: 5  
 STATION: stockpile  
 PIT NAME: Udeen Quarry, Superior WI  
 DATE SAMPLED: May 19 2010  
 INTENDED USE: Grade 2  
 SUBMITTED BY: Ron Johnson  
 LAB TECHNICIAN: Connie Pearson  
 MnDOT Cert. # 02252

SIEVE SIZE	PERCENT PASSING	SPECIFICATIONS
1"	100.0	100
3/4"	94.8	
3/8"	70.1	40-75
#4	55.5	25-60
#10	38.6	15-45
#40	22.0	
#100	12.4	
#200	9.0	3.-12

\* NOTE ~~\_\_\_\_\_~~ B. Road-Base Gravel



**Submittal 4**

Washed Pea Gravel Gradation

PRECISION TESTING, INC.  
5559 Enterprise Drive NE  
Virginia, MN 55792  
218-741-0555 phone  
218-741-0556 fax



June 18, 2010

**LABORATORY SIEVE ANALYSIS REPORT**

PROJECT: Hoover  
CLIENT JOB # 2010-04/ 1002-710  
SAMPLE ID#: 1  
STATION:  
PIT NAME: Udeen Quarry, Superior WI  
DATE SAMPLED: June 16 2010  
INTENDED USE: Clean Rock - 3/4 - 1"  
SUBMITTED BY: Ron J. Hoover  
LAB TECHNICIAN: Connie Pearson  
MnDOT Cert. #02252

SIEVE SIZE	PERCENT PASSING	SPECIFICATIONS
1"	100.0	100
3/4"	53.6	
3/8"	1.3	
#4		
#8		
#16		
#30		
#100		

\* Note C. DRAINAGE Ditch GRAVEL LAYER 400 TONS

**Submittal 6a**

Stone for Taper Layers Gradation



**Submittal 6c**

Riprap for Outfall 001 Drainage  
Ditch Gradation



1301 N. 3<sup>rd</sup> St. • Superior WI 54880 • 715-392-7114 • 800-373-2562 • F 715-392-7163 • www.twinportstesting.com

**Project** Coppers Facility

**Client** Udeen's Trucking

**Description** Gravel and Cobbles

**Specification** Informational (6" minus)

**Source** Thunderhill Aggregate (rip-rap)

**Copies To**

**TPT #** 10M5483

**Lab Sample No.** 80

**Sampled By** Client

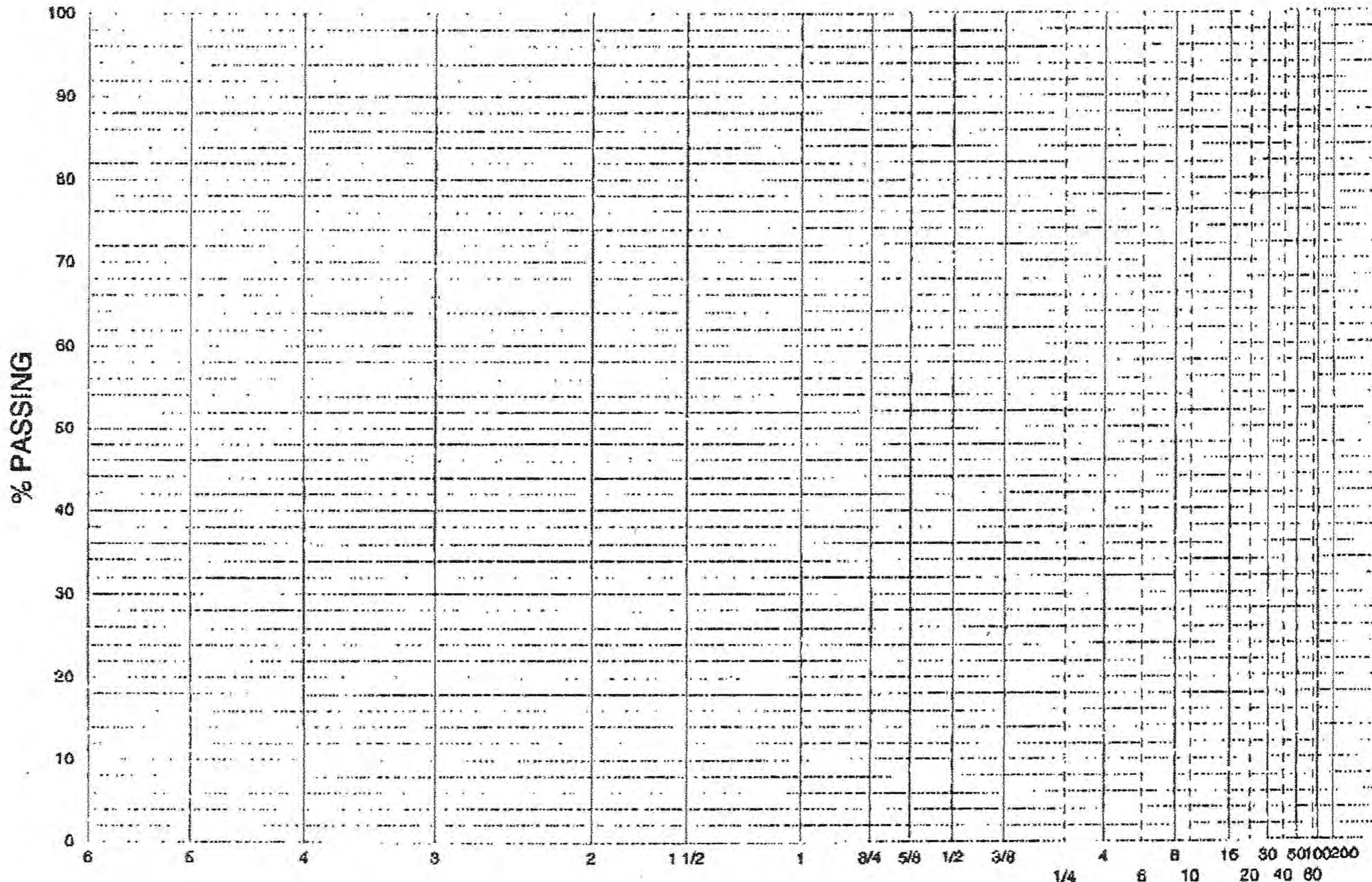
**Date Sampled** 07/15/10

**Date Tested** 07/15/10

SIEVE SIZE	% PASSING	SPEC. MIN.	SPEC. MAX.
6"	100		
4"	40		
3"	14		
2"	0.0		

SIEVE SIZE	% PASSING	SPEC. MIN.	SPEC. MAX.

**SIEVE SIZES**



**Remarks**

\* D. Riprap outfall Drainage Ditch  
900 tons

*Greg A. Patta 7-15-10*

**Submittal 7**

Non-Woven Geotextile  
Manufacturer's Product  
Information

# PRODUCT DATA SHEET

## GEOTEX® 801

GEOTEX 801 is a polypropylene, staple fiber, needlepunched nonwoven geotextile produced by Propex, and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the methods listed below. The fibers are needed to form a stable network that retains dimensional stability relative to each other. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils.

GEOTEX 801 conforms to the property values listed below.<sup>1</sup> Propex performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP).

PROPERTY	TEST METHOD	MARV <sup>2</sup>	
		ENGLISH	METRIC
<b>Mechanical</b>			
Mass/Unit Area (Typical)	ASTM D-5261	8.0 oz/yd <sup>2</sup>	271 g/m <sup>2</sup>
Tensile Strength (Grab)	ASTM D-4632	205 lbs	912 N
Elongation	ASTM D-4632	50%	50%
Puncture	ASTM D-4833	110 lbs	490 N
CBR Puncture	ASTM D-6241	525 lbs	2335 N
Mullen Burst	ASTM D-3786	350 psi	2413 kPa
Trapezoidal Tear	ASTM D-4533	80 lbs	356 N
<b>Endurance</b>			
UV Resistance % Retained at 500 hrs	ASTM D-4355	70%	70%
<b>Hydraulic</b>			
Apparent Opening Size (AOS) <sup>3</sup>	ASTM D-4751	80 US Std. Sieve	0.180 mm
Permittivity	ASTM D-4491	1.50 sec <sup>-1</sup>	1.50 sec <sup>-1</sup>
Water Flow Rate	ASTM D-4491	110 gpm/ft <sup>2</sup>	4480 l/min/m <sup>2</sup>
<b>Roll Sizes</b>		12.5 ft x 360 ft 15 ft x 300 ft	3.81 m x 109.8 m 4.57 m x 91.5 m

### NOTES:

1. The property values listed above are effective 02/2009 and are subject to change without notice.
2. Values shown are in weaker principal direction. Minimum average roll values (MARV) are calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.
3. Maximum average roll value.



THE ADVANTAGE CREATORS.™

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**Submittal 8a**

Woven Geotextile Manufacturer's  
Product Information

# PRODUCT DATA SHEET

## GEOTEX® 315ST

**GEOTEX 315ST** is a woven slit film geotextile produced by Propex, and will meet the following Minimum Average Roll Values (MARV) when tested in accordance with the methods listed below. The individual slit films are woven together in such a manner as to provide dimensional stability relative to each other. The construction of the geotextile makes **GEOTEX 315ST** ideal for soil separation and stabilization and meets AASHTO M288 Class I standards. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils.

**GEOTEX 315ST** conforms to the property values listed below.<sup>1</sup> Propex performs internal Manufacturing Quality Control (MQC) tests that have been accredited by the Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP).

PROPERTY	TEST METHOD	MARV <sup>2</sup>	
		ENGLISH	METRIC
<b>Mechanical</b>			
Tensile Strength (Grab)	ASTM D-4632	315 lbs	1400 N
Elongation	ASTM D-4632	12 %	12 %
Puncture	ASTM D-4833	150 lbs	667 N
CBR Puncture	ASTM D-6241	900 lbs	4000 N
Mullen Burst	ASTM D-3786	600 psi	4137 kPa
Trapezoidal Tear	ASTM D-4533	120 lbs	533 N
<b>Endurance</b>			
UV Resistance % Retained at 500 hrs	ASTM D-4355	70%	70%
<b>Hydraulic</b>			
Apparent Opening Size (AOS) <sup>3</sup>	ASTM D-4751	40 US Std. Sieve	0.425 mm
Permittivity	ASTM D-4491	0.05 sec <sup>-1</sup>	0.05 sec <sup>-1</sup>
Water Flow Rate	ASTM D-4491	4 gpm/ft <sup>2</sup>	160 l/min/m <sup>2</sup>
<b>Roll Sizes</b>		12.5 ft x 360 ft	3.81 m x 109.8 m
		15.0 ft x 300 ft	4.57 m x 91.5 m
		17.5 ft x 258 ft	5.33 m x 78.6 m

### NOTES:

1. The property values listed above are effective 06/2009 and are subject to change without notice.
2. Values reported in weaker principal direction. All values listed are Minimum Average Roll Values (MARV) unless otherwise noted, calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported. Maximum Average Roll Value (MaxARV) is calculated as typical plus two standard deviations.
3. Maximum average roll value.



THE ADVANTAGE CREATORS.™

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 PO Box 22788 FAX: 423 899 7619  
 Chattanooga, TN 37422 www.geotextile.com

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**Submittal 8b**

Woven Geotextile for Areas G, H  
S1 and S2 "Bridging"  
Manufacturer's Product  
Information



Sales Office:  
 Engineered Synthetic Products, Inc.  
 Phone (770) 564-1857  
 Fax (770) 564-1818  
 www.espgeosynthetics.com

## Geotextile Product Description Sheet

### SKAPS W315

SKAPS woven geotextile fabrics are woven polypropylene materials offering optimum performance when used in stabilization applications. Produced from first quality raw materials, they provide the perfect balance of strength and separation in styles capable of functioning exceptionally well in a wide range of performance requirements. SKAPS W315 resists ultraviolet resistance, rotting, biological degradation and it is chemically inert to any natural bases or acids Unless indicated below, all listed properties are Minimum Average Roll Values:

PROPERTY	TEST METHOD	UNIT	M.A.R.V. (Minimum Average Roll Value)
Weight (Typical)	ASTM D 5261	oz/sy (g/m <sup>2</sup> )	6.3 (214)
Grab Tensile	ASTM D 4632	lbs (kN)	315 (1.40)
Seam Strength	ASTM D 4632	lbs (kN)	283 (1.26)
Grab Elongation	ASTM D 4632	%	15
Trapezoid Tear Strength	ASTM D 4533	lbs (kN)	120 (.533)
Puncture Resistance	ASTM D 4833	lbs (kN)	120 (.533)
Puncture Resistance	ASTM D 6241	lbs (kN)	600 (2.67)
Mullen Burst	ASTM D 3786	psi (kPa)	600 (4134)
Permittivity*	ASTM D 4491	sec <sup>-1</sup>	.05
Water Flow*	ASTM D 4491	gpm/sf (l/min/m <sup>2</sup> )	4 (163)
AOS*	ASTM D 4751	US Sieve (mm)	40 (.425)
UV Resistance	ASTM D 4355	%/hrs	70/500

\* At the time of manufacturing. Handling, storage, and shipping may change these properties.

PACKAGING	
Roll Dimensions (W x L) – ft	12.5 x 360 / 17.5 x 258
Square Yards Per Roll	500
Estimated Roll Weight - lbs	210

This information is provided for reference purposes only and is not intended as a warranty or guarantee. SKAPS assumes no liability in connection with the use of this information.

**SKAPS Industries,**  
 316 S. Holland Dr., Pendergrass, GA 30567,  
 Phone:(706)-693-3440, Fax(706)-693-3450,  
 www.skaps.com

05/03/2007

**Submittal 9**

Reactive Core Mat Manufacturer's  
Product Information

# REACTIVE CORE MAT®

with ORGANOCLAY®

## PRODUCT DESCRIPTION

Organoclay® Reactive Core Mat® (RCM) is designed for use in the following applications:

- In-situ subaqueous cap for contaminated sediments or post-dredge residual sediments
- Embankment seepage control
- Groundwater remediation

Organoclay® Reactive Core Mat® is a permeable composite of geotextiles and a non-swelling granular clay compound that reliably adsorbs oil and similar organics from water.

## BENEFITS

- RCM provides a reactive material that treats contaminants which are carried by advective or diffusive flow
- Reactive cap allows for thinner cap thickness than a traditional sand cap
- Geotextiles provide stability and physical isolation

## PHYSICAL PROPERTIES

PROPERTIES	TEST METHOD	VALUE
<b>ORGANOCLAY<sup>1</sup></b>		
Bulk Density Range	CETCO Test Method	44 – 56 lbs/ft <sup>3</sup>
Oil Adsorption Capacity	CETCO Test Method	0.5 lb of oil per lb of organoclay, min
Quaternary Amine Content	CETCO Test Method	25 – 33% quaternary amine loading
<b>FINISHED RCM PRODUCT</b>		
Organoclay Mass per Area	CETCO Test Method	0.8 lb/ft <sup>2</sup>
Mat Grab Strength <sup>2</sup>	CETCO Test Method	90 lbs. MARV
Hydraulic Conductivity <sup>3</sup>	CETCO Test Method	1 x 10 <sup>-3</sup> cm/sec minimum

### Notes

<sup>1</sup> Apatite properties performed periodically on material prior to incorporation into the RCM.

<sup>2</sup> All tensile testing is performed in the machine direction.

<sup>3</sup> Permittivity at constant head of 2 inches and converted to hydraulic conductivity using Darcy's Law and RCM thickness per ASTM D5199 for geotextiles.

## PACKAGING

- 15' x 100' rolls, packaged on 4" PVC core tubes wrapped with polyethylene plastic packaging

## AVAILABILITY

Shipping is available from the following location:

- CETCO, 218 NE Industrial Park Rd, Cartersville, GA

Contact your local technical sales manager at:  
714-384-0111 or 800-527-9948

**Submittal 10**

Organoclay Manufacturer's  
Product Information

# ORGANOCLAY®

## ORGANIC ADSORPTION MEDIA

### PRODUCT DESCRIPTION

Organoclay® is specially formulated for use in the following applications:

- Organophilic Filtration Media: as flow through media for treating groundwater and leachate.
- Organoclay® Bulk Capping: provides subaqueous chemical isolation of contaminated sediment NAPL seeps in waterways.
- Solidification/Stabilization additive: improves hydraulic and leachability performance of pozzolanic mixes by adsorbing NAPL and dissolved low solubility organics

Organoclay® is a proprietary powdered adsorption media effective in removing oils, greases other non-aqueous phase liquids (NAPL) and other dissolved high molecular weight/low solubility organics.

### BENEFITS

- As filtration media used in series prior to activated carbon vessel, it extends life and adsorbency of activated carbon by removal of larger molecular organics that can cause fouling.
- Operates in stand-alone mode for treatment of oil contaminated waters or steam condensates.
- High adsorption capacity of oils, greases and other NAPL.

### PHYSICAL PROPERTIES

PROPERTIES	TEST METHOD	VALUE
Particle Size	CETCO Test Method	18 mesh (US sieve)
Bulk Density	CETCO Test Method	44-56 lbs./cu.ft.
Oil Adsorption Capacity	CETCO Test Method	0.5 lb/lb Minimum
Hydraulic Conductivity	mod ASTM D 2434/5084	1x10 <sup>-3</sup> cm/sec Minimum
Quaternary Amine Content	CETCO Test Method	25-33% min. Quaternary Amine Loading

### PACKAGING

- 50 lb bag
- 1500 lb super sack

### AVAILABILITY

Contact your local technical sales manager at:  
714-384-0111 or 800-527-9948



**Submittal 11**

Native Seed Mix Seed Tag



Wisconsin's  
Forage & Turf Seed Specialists  
Ashland, WI 54806

WET MEADOW NORTHEAST Mix  
SNMX8024E

	Purity	Germ	Origin
Ogle Oats	54.49%	95%	WI
Fringed Brome	15.85%	85%	MN
Bluejoint	0.58%	79%	WI
Virginia wild rye -	11.70%	85%	MN
Fowl Bluegrass	4.85%	80%	WI
Tall Manna grass	1.85%	85%	WI
Tussock Sedge	0.29%	85%	WI
Pointed broom Sedge	0.33%	85%	WI
Dark green bulrush	1.45%	85%	WI
Woolgrass	0.47%	85%	MN
Canada anemone	0.75%	85%	WI
Marsh milkweed	1.85%	75%	WI
Flat topped aster	0.74%	85%	WI
Common Boneset	0.59%	85%	WI
Grass-leaved Goldenrod	0.25%	85%	MN
Spotted Joe pye weed	1.05%	85%	WI
Blue monkey flower	0.19%	85%	WI
Giant goldenrod	0.15%	85%	WI
Eastern panicled aster	0.24%	85%	MN

Other Crop: 0.25%    Inert Matter: 2.02%    Net. Wt.: 13.90#  
Weed Seed: 0.06%    Tested: 9-10    12.50 pls #  
NOXIOUS WEED SEED: NONE FOUND

**Submittal 12**

Soil Markers Manufacturer's  
Product Information



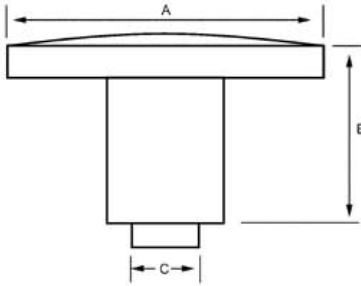
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You are here: [Go Shopping](#) >> [Surveying](#) >> [Survey Markers](#) >> [Aluminum Survey Markers](#) >> [3-1/4" Diameter Rebar Caps](#)

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**RBH4325**



A = 3 1/4" (83 mm)  
 B = 1 1/4" (38 mm)  
 C = 1/2" (13 mm)

3 1/4" Domed cap for 1/2" Rebar (Aluminum)

**Prices**

<b>\$7.70</b>	<b>1 - 24</b>	<i>NO CHARGE for stamping 11 or more markers. There is a \$35 setup charge for stamping fewer markers.</i>
<b>\$4.91</b>	<b>25 - 99</b>	
<b>\$4.58</b>	<b>100 - 249</b>	
<b>\$4.29</b>	<b>250 - 499</b>	
<b>\$3.82</b>	<b>500 or more</b>	

Qty:  [Add To Cart](#)

Please enter the text you would like printed in the text boxes provided below:

**Outside Row**

Total of 46 characters and spaces.

Centered at 12 o'clock:

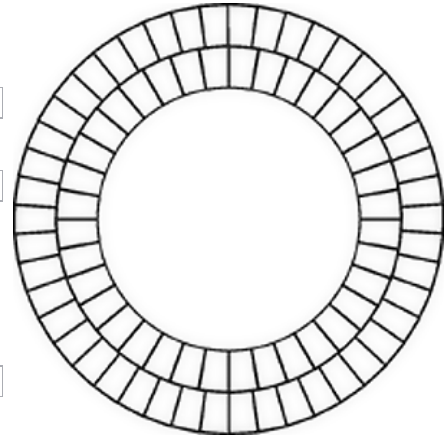
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## **Appendix C**

Weekly Progress Reports

On-Property Corrective Measures at Superior, Wisconsin



Report No.

Project No.

Work Dates:

01

E-1046

8-02-10 to 8-07-10



Weekly

Progress Report

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1 OFFICE AREA MOBILIZATION BEGINS.



2 MATERIAL FOR PROJECT BEING DELIVERED TO SITE.



3 CLEARING CONTRACTOR ONSITE.



4 CLEARING CONTRACTOR ONSITE.

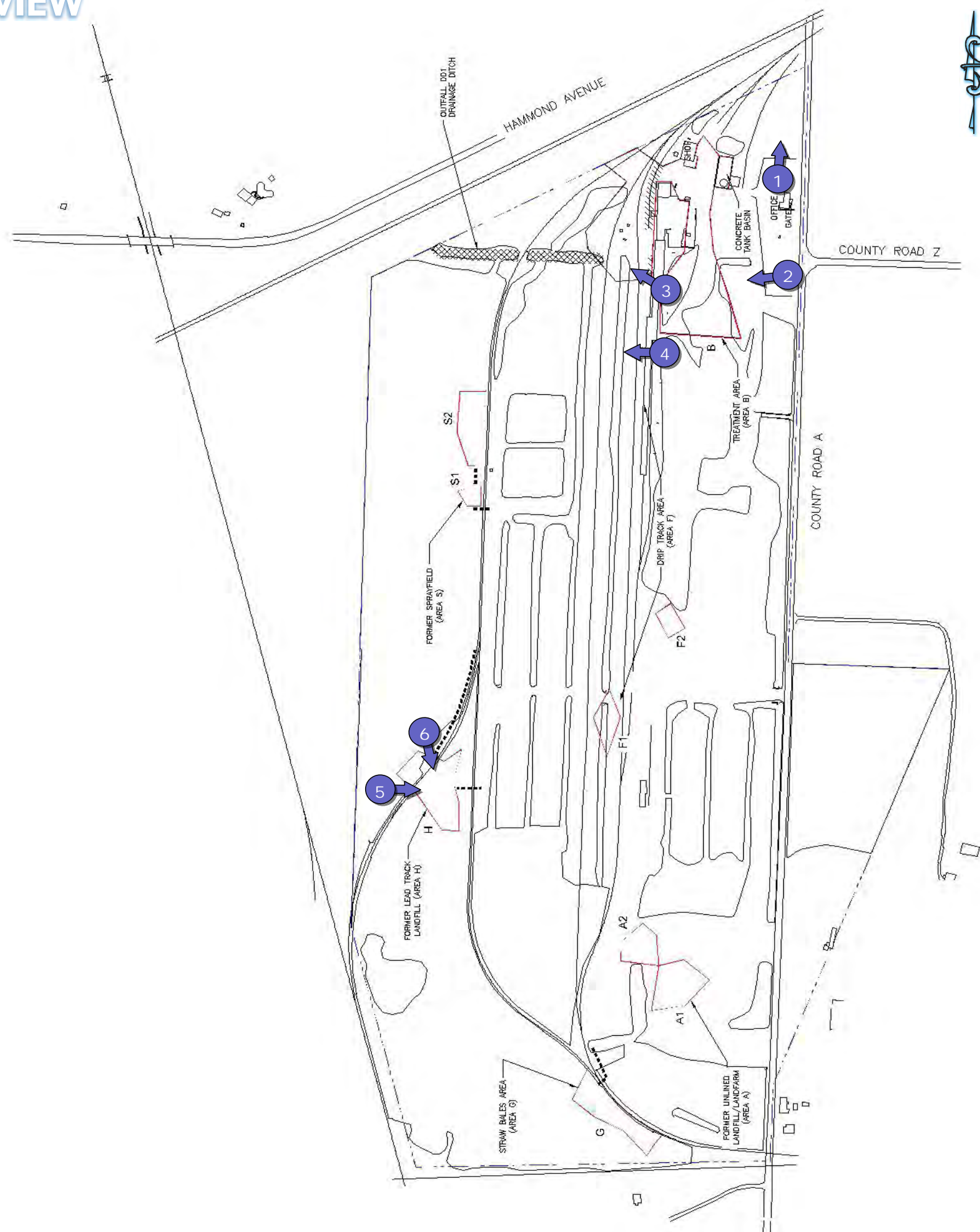


5 AREA G AFTER CLEARING.



6 AREA H AFTER CLEARING.

PLAN VIEW



GENERAL COMMENTS

- COMMENCED MOBILIZATION FOR PROJECT.
- COMMENCED RECEIVING MATERIALS FOR PROJECT.
- COMMENCED CLEARING CONTRACTOR CLEARING WORK AREAS.



Report No.

Project No.

Work Dates:

02

E-1046

8-09-10 to 8-13-10



Weekly

Progress Report

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1 PARKING AREA IS INSTALLED.



2 SURVEYOR ONSITE TO BEGIN LAYING OUT WORK AREAS AND TOPO OF EXISTING CONDITIONS.



3 CONSTRUCTION ENTRANCES ARE INSTALLED.



4 MATERIALS FOR PROJECT ARE DELIVERED TO SITE AND STOCKPILED.

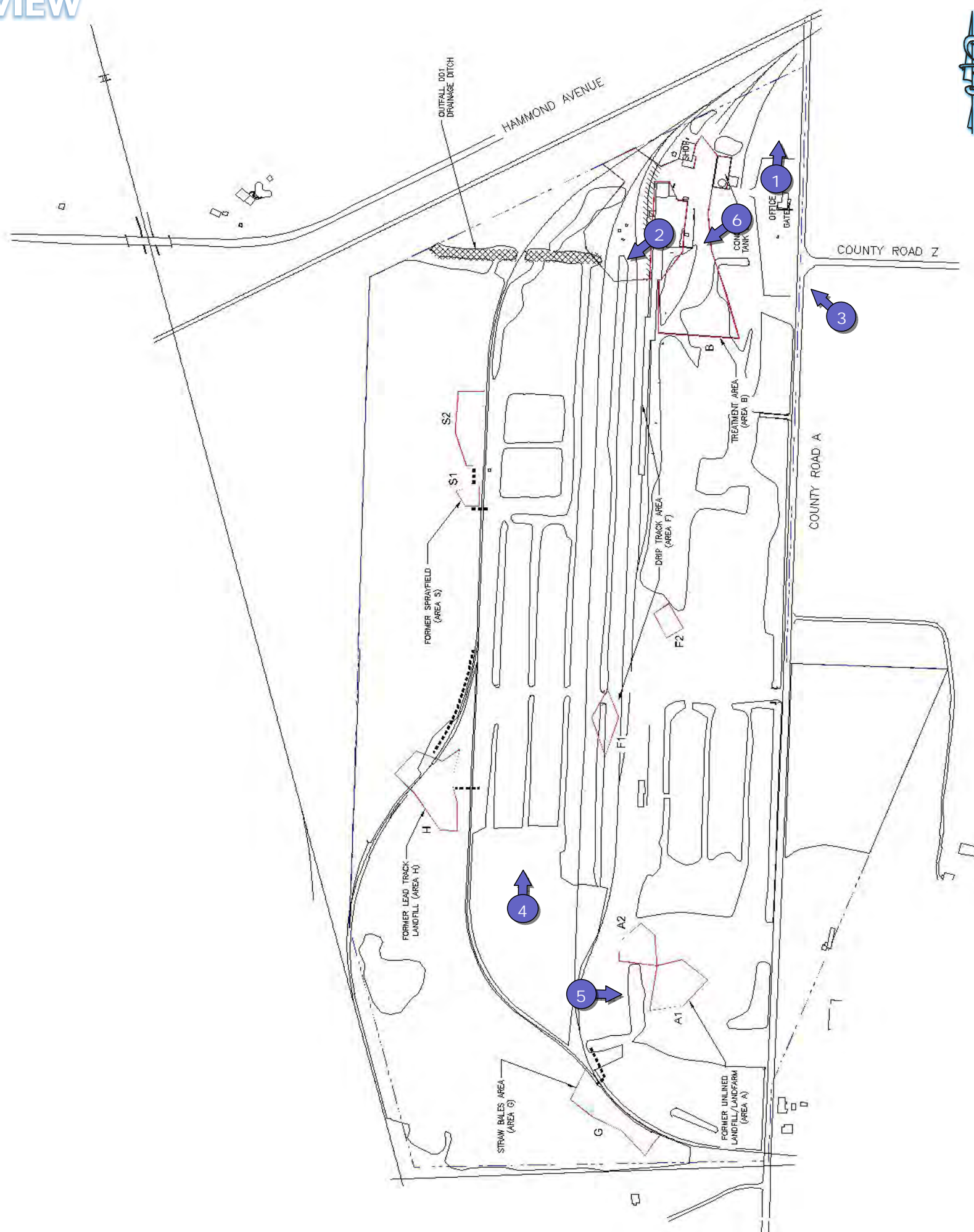


5 CREW INSTALLS SILT FENCE IN WORK AREAS.



6 REACTIVE CORE MAT IS DELIVERED TO JOBSITE.

## PLAN VIEW



## GENERAL COMMENTS

- CONTINUE MOBILIZATION ACTIVITIES, WORK FORCE ON SITE.
- CONTINUED RECEIVING AND STOCKPIILING MATERIALS FOR PROJECT.
- CONTINUED CLEARING WORK AREAS.
- COMMENCED AND CONTINUING SURVEY OF WORK AREA.
- COMMENCED INSTALLATION OF EROSION CONTROL MEASURES.
- COMMENCED CONSTRUCTION OF ACCESS ROADS.
- COMMENCED WEEKLY CONFERENCE CALLS.



Report No.

Project No.

Work Dates:

03

E-1046

8-16-10 to 8-21-10



Weekly

Progress Report

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1 AREA F2 CAPPING IS COMPLETED MONDAY 8-16-2010.



2 INSTALLATION OF FABRIC AND STONE IN AREA G TO BRIDGE OVER EXTREMELY WET CONDITIONS.



3 INSTALLATION OF FABRIC AND STONE IN AREA G TO BRIDGE OVER EXTREMELY WET CONDITIONS.



4 AREA F2 AFTER 2.5 INCHES OF RAIN; NO SETTLEMENT IN AREA.

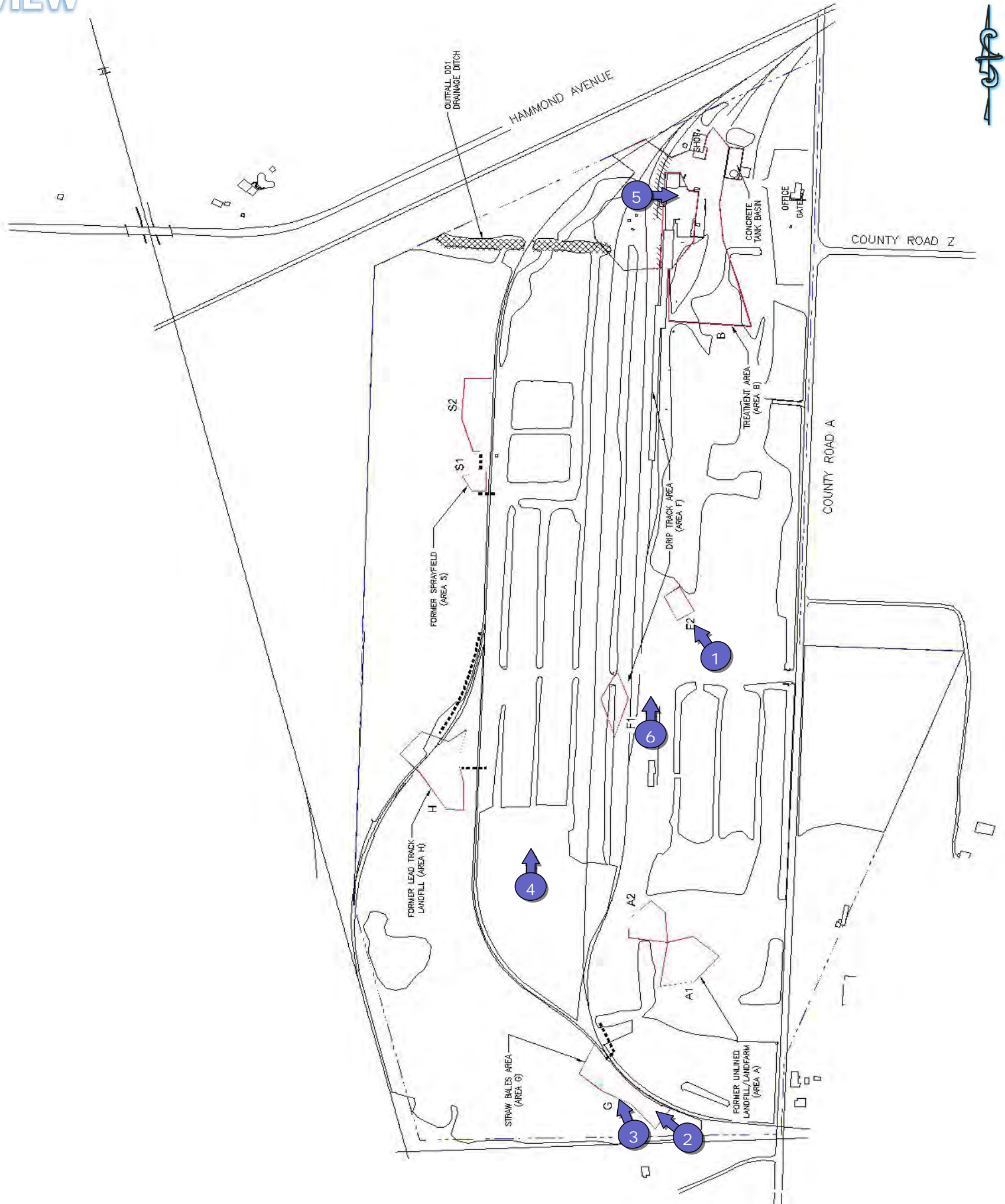


5 INSTALLATION OF EROSION CONTROLS CONTINUES THIS WEEK.



6 CONSTRUCTION MATERIALS CONTINUE TO ARRIVE ON SITE.

## PLAN VIEW



## GENERAL COMMENTS

- COMMENCED SURFACE CAPPING OPERATIONS.
- COMMENCED PLACING CUT MATERIAL INTO AREA A.
- COMMENCED INSTALLATION OF STONE AND FABRIC TO BRIDGE WET AREAS IN AREA G.
- CONTINUED MOBILIZATION ACTIVITIES.
- CONTINUED INSTALLATION OF EROSION CONTROLS AND RECEIVING CONSTRUCTION MATERIALS.
- COMPLETED AREA F2 CAPPING.
- COMPLETED INSTALLATION OF EROSION CONTROLS.
- HEAVY RAIN THIS WEEK LIMITED CONSTRUCTION ACTIVITIES.
- WATER TREATMENT SYSTEM ON SITE 8-17-2010.
- TECHNICIAN FROM ENCOTECH WILL BE ONSITE 8-23/24 TO HOOKUP WATER TREATMENT SYSTEM.





Report No.  
**04**

Project No.  
**E-1046**

Work Dates:  
**8-23-10 to 8-28-10**



**Weekly**  
Progress Report

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**1** BACKFILLING ROAD BASE AND CLAY BACKFILL IN AREA F1.



**2** WATER TREATMENT SYSTEM IS HOOKED UP AND WILL BE TESTED TUESDAY.



**3** WOVEN GEOTEXTILE IS PLACED IN AREA G PRIOR TO STONE.



**4** PLACEMENT OF GEOTEXTILE AND STONE FOR BRIDGING IN AREA G IS COMPLETED TODAY.

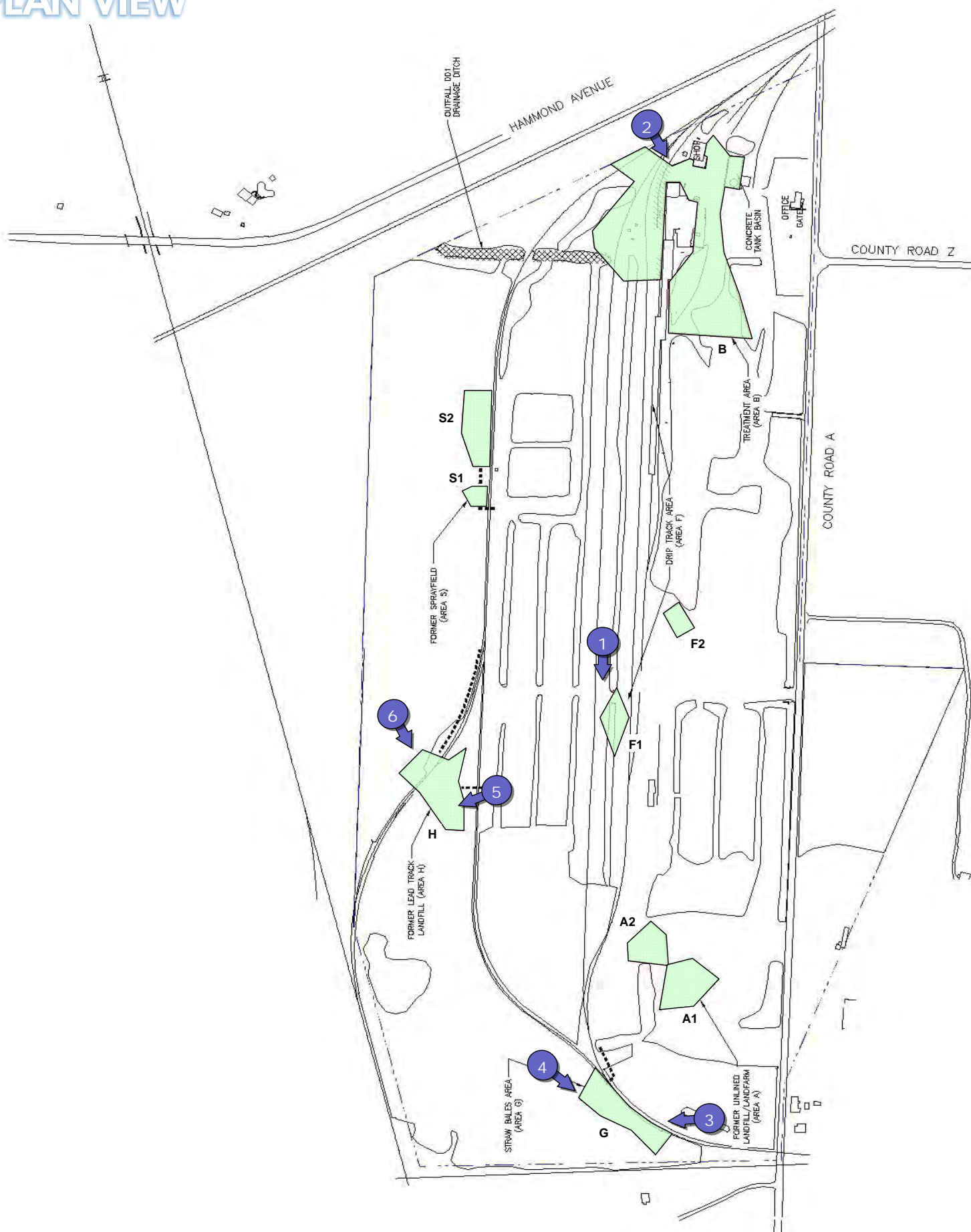


**5** EXCAVATOR IS USED TO BEGIN PLACEMENT OF CLAY BACKFILL IN AREA H.



**6** CONTINUING TO PLACE CLAY BACKFILL IN AREA H.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- RECEIVING MATERIALS.
- RECEIVED NEW CARBON VESSEL FOR WATER TREATMENT SYSTEM. THIS REPLACES THE DAMAGED UNIT.
- RECEIVED ALL THE PARTS AND INSTALLATION OF WATER TREATMENT SYSTEM.
- TECHNICIAN FROM ENCOTECH WILL BE ONSITE TUESDAY TO HOOK UP WATER SYSTEM.
- WATER TREATMENT SYSTEM IS ONLINE, WILL RUN WATER THROUGH TOMORROW AFTER 24 HR. ACTIVATION TIME IS ELAPSED.
- COMMENCED SURVEYORS TOPO EXISTING CONDITIONS OF OUTFALL DITCH.
- RECEIVED CRANE MATS TO ASSIST IN ACCESSING.
- COMMENCED AND COMPLETED EXCAVATION AND BACKFILL OF F1.
- COMMENCED BACKFILL OF AREA F1 ROAD BASE AND F1 DITCH RESTORATION.
- COMMENCED DEPLOYMENT OF WOVEN & NON-WOVEN FABRICS IN AREA F1.
- INSTALLATION OF CLAY BACKFILL IN AREA F1 DITCH.
- COMPACTING AREA F1 / F2 IN PREPARATION FOR COMPACTION TEST.
- COMPACTION TESTING COMPLETED ON AREAS F1 / F2, ALL TESTS PASSED.
- COMMENCED PLACEMENT OF EXCAVATED MATERIAL IN AREA A.
- COMMENCED INSTALLATION OF MAT ROAD TO ACCESS AREA G.
- INSTALLING WOVEN GEOTEXTILE AND STONE TO BRIDGE AREA G.
- INSTALLATION OF GEOTEXTILE & STONE IN AREA G.
- INSTALLATION OF SILT FENCE IN AREA G.
- MOVING MATS TO AREA H TO BEGIN BRIDGING EFFORT.
- COMMENCED INSTALLATION OF GEOTEXTILE & STONE FOR ACCESS ROAD IN AREA H.
- PLACEMENT OF NON-WOVEN GEOTEXTILE AND CLAY BACKFILL IN AREA H.
- STONE ACCESS ROAD WILL BE DUG OUT AS CLAY BACKFILL IS INSTALLED; THE STONE WILL BE USED IN ANOTHER SECTION OF AREA H TO HELP CROSS TRACKS AND BRIDGE THE WESTERN PORTION OF AREA H.



Report No.

Project No.

Work Dates:

05

E-1046

8-30-10 to 9-02-10



Weekly

Progress Report

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1 CLAY BACKFILL CONTINUES TO BE PLACED IN AREA H.



2 CLAY BACKFILL CONTINUES TO BE PLACED IN AREA H.



3 CLAY BACKFILL IS PLACED IN AREA H.



4 CLAY BACKFILL IS PLACED IN AREA H.



5 INSTALLING SLOPE ALONG TRACKS IN AREA H.



6 CREW STARTS WATER TREATMENT SYSTEM. ON SITE ENGINEER TOOK SAMPLE AND SENT IT OFF.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS, ADDED STRAW BALES TO HELP WITH EROSION CONTROLS.
- RECEIVING MATERIALS.
- CONTINUED TO PLACED CLAY BACKFILL IN AREA H.
- WATER SYSTEM START-UP TO CHECK PRESSURES AND FOR ANY LEAKS.
- BEGAN RUNNING WATER TREATMENT SYSTEM.
- ARCADIS REPRESENTATIVE TOOK THE WATER SAMPLE AND SENT IT OFF. SHOULD RECEIVE RESULTS TUESDAY / WEDNESDAY 9/07 - 9/08/2010



Report No.  
**06**

Project No.  
**E-1046**

Work Dates:  
**9-08-10 to 9-11-10**

**Weekly**  
Progress Report  
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**1** DUE TO RAIN OVER THE WEEKEND AREA H WAS TOO WET TO WORK IN SO OPERATIONS WERE MOVED TO AREA G.



**2** CLAY BACKFILL IS PLACED IN AREA G; EXCAVATOR IS USED TO BEGIN INSTALLATION TO PREVENT TEARING GEOTEXTILE.



**3** CLAY BACKFILL PLACEMENT CONTINUES IN AREA G.



**4** PLACEMENT OF CLAY BACKFILL CONTINUES IN AREA G.



**5** STONE BRIDGING IN AREA S1 IS COMPLETED TODAY.



**6** CLAY BACKFILL IS PLACED IN AREA S1.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS, ADDED STRAW BALES TO HELP WITH EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- RAIN OVER HOLIDAY WEEKEND; AREA H WAS TOO WET TO FINISH GRADE SO OPERATIONS WERE MOVED TO AREA G.
- MOVED MATS FROM AREA H TO AREA G.
- COMMENCED AND COMPLETED PLACING CLAY BACKFILL MATERIAL IN AREA G.
- RAIN FRIDAY NIGHT FORCED OPERATIONS TO MOVE FROM AREA G TO AREA S1.
- MOVING MATS FROM AREA G TO S1 / S2.
- COMMENCED INSTALLATION OF STONE BRIDGING IN AREA S1.
- COMMENCED PLACEMENT OF CLAY BACKFILL IN AREA S1.
- COMMENCED TREATING FIRST TANK OF IMPACTED WATER.
- RECEIVED RESULTS FROM WATER SAMPLE; SAMPLE PASSED, BEGAN FILLING INFLUENT TANK TO CONTINUE WATER TREATMENT.
- MET WITH SEEDING CONTRACTOR, SHOWED HIM JOBSITE.
- SURVEYOR ONSITE TO TOPO AROUND THE PUMP HOUSE IN AREA B.



Report No.  
**07**

Project No.  
**E-1046**

Work Dates:  
**9-13-10 to 9-19-10**

**Weekly**  
Progress Report  
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**1** STONE IS PLACED FOR ACCESS BETWEEN AREAS S1 & S2.



**2** CLAY BACKFILL IS ADDED IN AREA H TO CREATE A PITCH FOR DRAINAGE AWAY FROM TRACKS. EXCAVATOR WORKS SLOPE ALONG TRACKS IN PREPARATION FOR TAPER STONE.



**3** CONTINUING TO PLACE CLAY BACKFILL IN AREA S2.



**4** SLOPE IS INSTALLED IN AREA G IN PREPARATION FOR TAPER STONE.



**5** SLOPE IS INSTALLED ON WEST SIDE OF AREA H.



**6** SLOPE IS INSTALLED ON EAST SIDE OF AREA H.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED PUMPING & TREATING WATER FROM THE AREA B CONCRETE BASIN.
- COMMENCED AND CONTINUED TO PLACE CLAY BACKFILL IN AREA S2.
- CONTINUED TO PLACE STONE FOR BRIDGING IN AREA S2.
- CONTINUED TO PLACE AND GRADE CLAY BACKFILL IN AREA H.
- CONTINUED TO PLACE CLAY BACKFILL IN AREA H TO CREATE DRAINAGE.
- CONTINUED AND COMPLETED SLOPE CONSTRUCTION AND TAPER STONE INSTALLATION ALONG TRACKS IN AREA H.
- COMPLETED PLACING CLAY BACKFILL IN AREA S1.
- COMPLETED SUBGRADE OF AREA G.
- COMPLETED CONSTRUCTION OF SLOPES IN AREA G.
- COMPLETED INSTALLING TAPER STONE ALONG SLOPE NEXT TO TRACKS IN AREA G.



Report No.  
**08**

Project No.  
**E-1046**

Work Dates:  
**9-20-10 to 9-22-10**

**Weekly**  
Progress Report  
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1 A VIEW OF THE STONE PLACED ON THE SLOPE ALONG TRACKS IN AREA H.



2 TOPSOIL PLACEMENT IS COMPLETED ON THE WESTERN SIDE OF AREA H.



3 TOPSOIL PLACEMENT IN AREA H IS COMPLETED.



4 CLAY BACKFILL CONTINUES TO BE PLACED IN AREA S2.

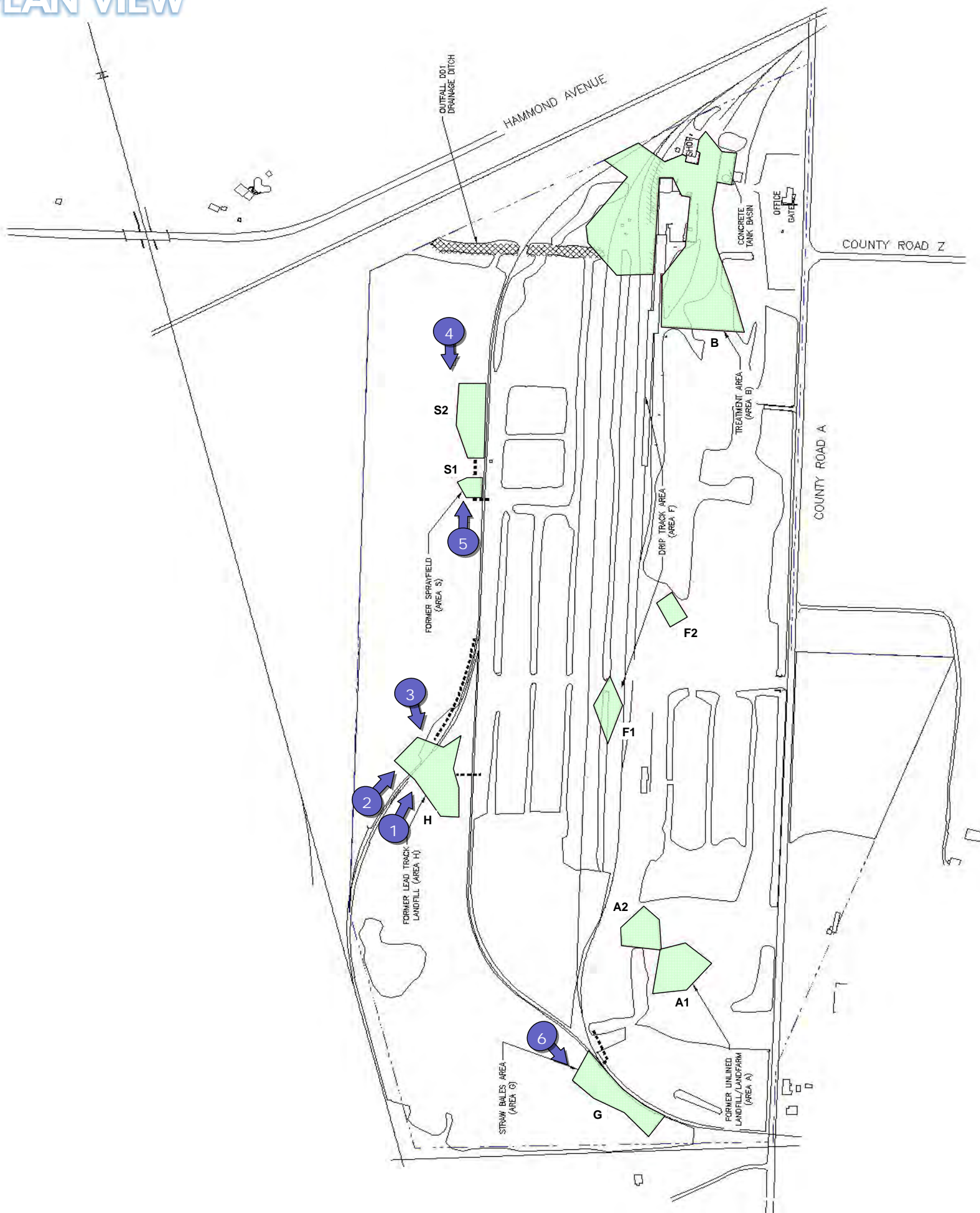


5 EXCAVATOR IS USED TO INSTALL SLOPE IN AREA S2.



6 TOPSOIL PLACEMENT IN AREA G IS COMPLETED.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED TO PUMP WATER FROM AREA B CONCRETE TANK BASIN FOR ON-SITE TREATMENT AND DISPOSAL.
- COMMENCED AND COMPLETED PLACEMENT OF TOPSOIL IN AREA H.
- CONTINUED TO PLACE CLAY BACKFILL IN AREA S2.
- COMPLETED PLACEMENT OF TOPSOIL IN AREA G.
- COMPLETED PREPARING SITE FOR TRAVEL ROTATION WEEKEND.



Report No.

Project No.

Work Dates:

09

E-1046

9-28-10 to 10-02-10



Weekly

Progress Report

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1 TOPSOIL PLACEMENT IN AREAS S1 & S2.



2 TOPSOIL IS PLACED IN F1 DITCH IN PREPARATION FOR SEEDING.



3 SOIL REMOVAL ACTIVITIES IN AREA B.



4 AREA S1 & S2 SEEDING COMPLETED.

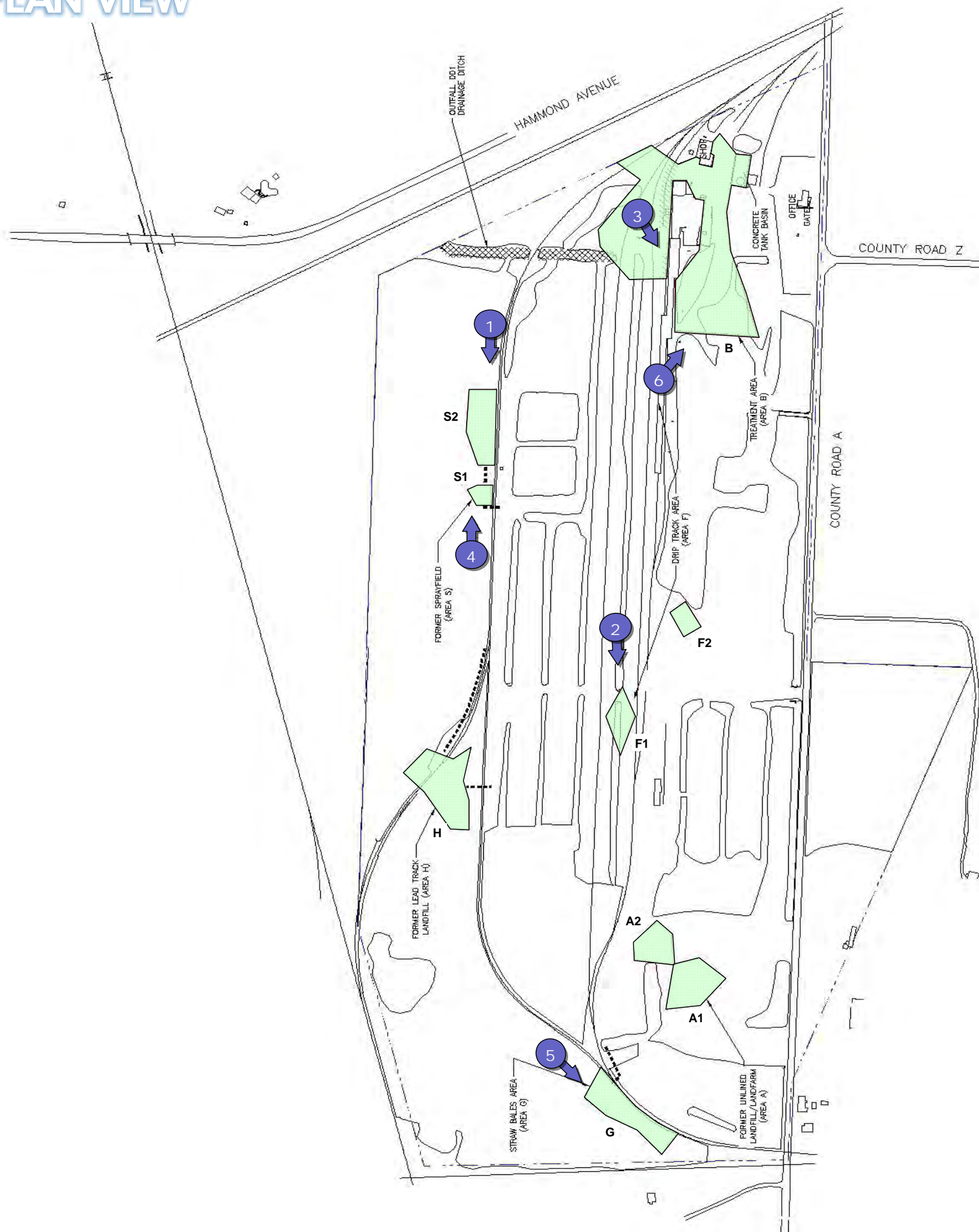


5 AREA G SEEDING COMPLETED.



6 PLACING CLAY BACKFILL IN AREA B.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED TO TREAT WATER FROM AREA B CONCRETE TANK BASIN WITH TEMPORARY ON-SITE TREATMENT FOR ON-SITE DISPOSAL.
- CONTINUED AND COMPLETED TOPSOIL PLACEMENT AND SEEDING AREAS G, H, S1 & S2 AND F1.
- COMPLETED MOVING MATS TO AREA B FOR ACCESS ROAD.
- COMMENCED AND CONTINUED CAPPING ACTIVITIES IN AREA B.
- CONTINUED TO HAUL MATERIAL FROM AREA B TO AREA A.



1 SURFACE COVER INSTALLATION IN AREA B.



2 SUBGRADE LEVELING IN AREA B.



3 MATERIAL CUT FROM AREA B BEING PLACED AND GRADED IN AREA A.



4 SURFACE COVER INSTALLATION IN AREA B.

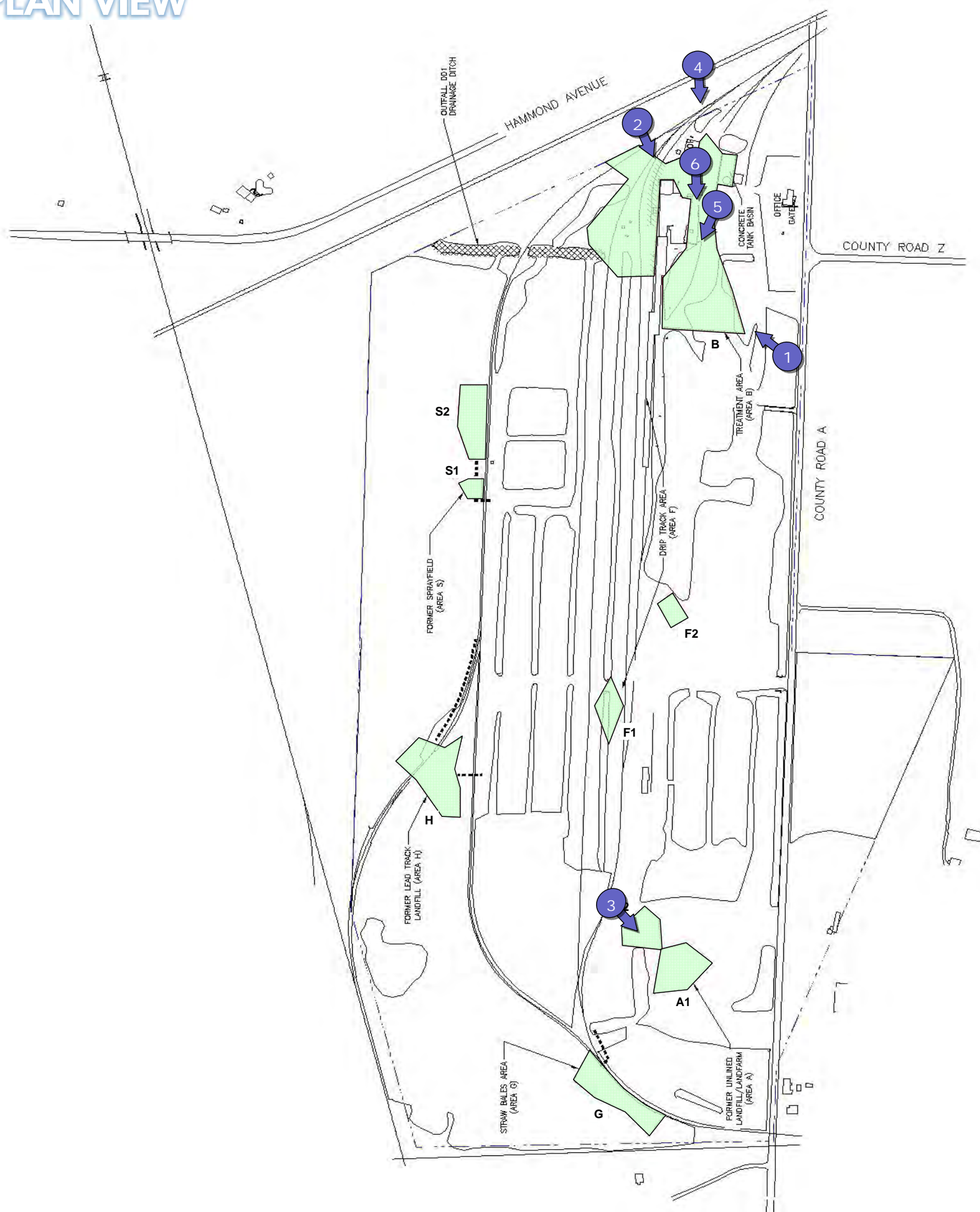


5 SURFACE COVER INSTALLATION IN AREA B.



6 DEMOLISHING CONCRETE PIERS AND WALL IN PENTA TANK FARM AREA.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- COMMENCED AND CONTINUED SUBGRADE LEVELING ACTIVITIES IN AREA B.
- CONTINUED TO HAUL MATERIAL FROM AREA B TO AREA A.
- COMMENCED STABILIZING MATERIAL INSIDE OF CONCRETE BERM IN AREA B.
- CONTINUED TO INSTALL SURFACE COVERS IN AREA B.
- COMPLETED DEMOLISHING CONCRETE FROM PENTA TANK FARM IN PREPARATION FOR REMOVAL AND OFF-SITE DISPOSAL.



Report No.  
**11**

Project No.  
**E-1046**

Work Dates:  
**10-11-10 to 10-13-10**

**Weekly**  
Progress Report  
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1 CONCRETE FROM PENTA TANK FARM IS DEMOLISHED AND STOCKPILED.



2 CREW DEPLOYS GEOTEXTILE PRIOR TO CLAY GENERAL FILL PLACEMENT IN AREA B.



3 GENERAL FILL IS PLACED ALONG DRIP TRACK IN AREA B.



4 IN PREPARATION FOR SUBGRADE FILL PLACEMENT, EXISTING MATERIAL IN CONCRETE BASIN IS STABILIZED.



5 CONTINUING TO PLACE GENERAL FILL / CLAY GENERAL FILL IN AREA B.



6 MATS ARE MOVED TO SOUTHERN END OF AREA B IN PREPARATION FOR TOPSOIL PLACEMENT.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED AND COMPLETED STABILIZING EXISTING MATERIAL INSIDE OF CONCRETE TANK BASIN.
- CONTINUED SUBGRADING AND INSTALLATION OF SOIL COVERS IN AREA B.
- CONTINUED TO PLACE EXCESS SUBGRADE LEVELING CUT MATERIAL FROM AREA B IN AREA A.





Report No.

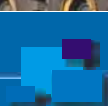
Project No.

Work Dates:

12

E-1046

10-19-10 to 10-23-10



Weekly

Progress Report

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1 DEBRIS FROM PENTA TANK FARM IS LOADED FOR DISPOSAL.



2 CARBON CHANGE OUT IN WATER TREATMENT SYSTEM.



3 CUT / FILL OPERATIONS IN AREA B CONTINUE.



4 PENTA TANK FARM DEBRIS IS LOADED OUT FOR DISPOSAL.



5 BACKFILL IS PLACED IN AREA B.



6 BACKFILL IS PLACED IN AREA B.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED TO CUT / FILL OPERATIONS IN AREA B.
- CONTINUED PLACING GEOTEXTILE AND BACKFILL MATERIAL IN AREA B.
- CONTINUED TO HAUL CUT MATERIAL TO AREA A.
- CONTINUED TO LOADING ROLL OFF BOXES WITH DEBRIS FROM PENTA TANK FARM AREA.
- CONTINUED ONSITE WATER TREATMENT OF WATER REMOVED FROM THE CONCRETE TANK BASIN IN AREA B. CARBON FILTERS WERE CHANGED OUT ON WEDNESDAY, OCTOBER 20.



Report No.

Project No.

Work Dates:

13

E-1046

10-25-10 to 10-30-10



Weekly

Progress Report

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1 CLAY BACKFILL IS PLACED INSIDE CONCRETE BASIN IN AREA B.



2 CREW CONTINUES TO TREAT WATER.



3 CREW CONSTRUCTS SHELTER AROUND WATER TREATMENT SYSTEM.



4 SUBGRADE OPERATIONS IN AREA B CONTINUE. GEOTEXTILE IS DEPLOYED PRIOR TO SOIL COVER INSTALLATION.



5 INSTALLING OF ROAD BASE SURFACE COVER IN AREA B.



6 INSTALLATION OF ROAD BASE SURFACE COVER IN AREA B.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED SUBGRADING AND INSTALLATION OF SOIL COVERS IN AREA B.
- CONTINUED TO HAUL CUT MATERIAL TO AREA A.
- CONTINUED TO TREAT WATER REMOVED FROM THE AREA B CONCRETE TANK BASIN.



Report No.

Project No.

Work Dates:

14

E-1046

11-01-10 to 11-03-10



Weekly

Progress Report

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1 SUBGRADING OPERATIONS CONTINUE IN AREA B.



2 SUBGRADING OPERATIONS CONTINUE IN AREA B.



3 INSTALLATION OF ROAD BASE SURFACE COVER IN AREA B.



4 INSTALLATION OF ROAD BASE SURFACE COVER IN AREA B.



5 INSTALLATION OF CLAY VEGETATED SURFACE COVER IN AREA B.



6 INSTALLATION OF CLAY VEGETATED SURFACE COVER IN AREA B.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED TO SUBGRADING AND INSTALLATION OF SOIL COVERS IN AREA B.
- CONTINUED TO HAUL CUT MATERIAL TO AREA A.
- CONTINUED TO TREAT WATER REMOVED FROM THE AREA B CONCRETE TANK BASIN.



Report No.

Project No.

Work Dates:

15

E-1046

11-08-10 to 11-12-10



Weekly

Progress Report

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1 SLOPES IN OUTFALL DITCH ARE PREPARED FOR CONSTRUCTION.



2 SECTION OF OUTFALL DITCH IS EXCAVATED; GRAVEL IS ADDED TO DITCH PRIOR TO RCM.



3 GENERAL FILL IS PLACED OVER RCM PRIOR TO GEOTEXTILE & RIP RAP.



4 RCM IS INSTALLED IN DITCH.



5 GENERAL FILL IS PLACED OVER RCM PRIOR TO GEOTEXTILE & RIP RAP.



6 GENERAL FILL PLACEMENT.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED TO HAUL CUT MATERIAL TO AREA A.
- CONTINUED TO TREAT WATER.
- COMPLETED CUT / FILL OPERATIONS IN AREA B.
- COMPLETED SLOPE PREPARATION IN OUTFALL DITCH.
- COMMENCED AND CONTINUED OUTFALL DITCH RESTORATION.



Report No.

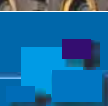
Project No.

Work Dates:

16

E-1046

11-15-10 to 11-20-10



Weekly

Progress Report

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1 A VIEW OF THE OUTFALL DITCH.



2 OUTFALL DITCH EXCAVATION CONTINUES.



3 RIP RAP PLACEMENT CONTINUES IN OUTFALL DITCH.



4 CREW EXTENDS CULVERT ON WEST SIDE OF RR CROSSING.



5 OUTFALL DITCH EXCAVATION IS COMPLETED; GRAVEL IS ADDED.



6 CREW DEPLOYS RCM IN OUTFALL DITCH.

## PLAN VIEW



## GENERAL COMMENTS

- MAINTENANCE OF EROSION CONTROLS.
- CONTINUED RECEIVING MATERIALS.
- CONTINUED TO WATER ROADS FOR DUST CONTROL.
- CONTINUED TO HAUL CUT MATERIAL TO AREA A.
- CONTINUED TO TREAT WATER.
- CONTINUED AND COMPLETED OUTFALL DITCH RESTORATION.
- PREPARED TREATMENT AREA TO DISCHARGE WATER TO TANKER FOR DISPOSAL TO POTW.



Report No.

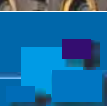
Project No.

Work Dates:

17

E-1046

11-22-10 to 11-23-10



Weekly

Progress Report

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1 RIP RAP IS PLACED AT HEADWALL IN OUTFALL DITCH.



2 A VIEW OF COMPLETED OUTFALL LOOKING WEST "DOWNSTREAM SECTION".



3 A VIEW COMPLETED OF OUTFALL DITCH LOOKING WEST "UPSTREAM SECTION".



4 EXCAVATION IN AREA B ADJACENT TO OUTFALL DITCH.



5 BACKFILLING OF EXCAVATION AREA ADJACENT TO OUTFALL DITCH.



6 STONE IS PLACED NEXT TO SHOP AND AREA IS REGRADED TO PROMOTE DRAINAGE AWAY FROM SHOP.

## PLAN VIEW



## GENERAL COMMENTS

- COMMENCED AND CONTINUING DEMOBILIZATION ACTIVITIES.
- CONTINUING SITE HOUSEKEEPING IN PREPARATION FOR HOLIDAY BREAK.
- CONTINUING MAINTENANCE ON EQUIPMENT FOR HOLIDAY SHUT DOWN.
- COMPLETED REMOVING CONSTRUCTION ENTRANCES.
- CONTINUING TO FINAL GRADE AROUND AREA B WHERE IT WAS DISTURBED TO COMPLETE OUTFALL DITCH.
- COMPLETED EXCAVATION OF ROAD ALONG OUTFALL DITCH IN AREA B.
- COMPLETED BACKFILL ROAD ALONG OUTFALL DITCH IN AREA B.



Report No.  
**18**

Project No.  
**E-1046**

Work Dates:  
**11-29-10 to 12-03-10**

**Weekly**  
Progress Report  
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1 COMPACTING SUBGRADE IN AREA A; IN PREPARATION FOR AREA A COVER.



2 GEOTEXTILE IS DEPLOYED PRIOR TO BACKFILL IN AREA A.



3 GENERAL FILL IS PLACED IN AREA A.



4 CONTINUING TO COVER AREA A.



5 CREW DEPLOYS GEOTEXTILE PRIOR TO FILL PLACEMENT.



6 CONTINUING TO COVER AREA A.

## PLAN VIEW



## GENERAL COMMENTS

- COMMENCED AND CONTINUING DEMOBILIZATION ACTIVITIES.
- CONTINUING GENERAL SITE CLEAN-UP FOR JOB COMPLETION.
- CONTINUING RECEIVE MATERIALS.
- COMPLETED INSTALLATION OF ROCK ROAD ALONG OUTFALL DITCH.
- COMPLETED PREPARING AREA A FOR ONE FOOT COVER.
- COMMENCED AND CONTINUING COVERING AREA A WITH GEOTEXTILE AND 1 FOOT OF GENERAL FILL.
- COMPLETED LOADING RAIL TIES TO TANGENT ENERGY.



Report No.

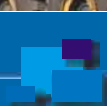
Project No.

Work Dates:

19

E-1046

12-06-10 to 12-08-10



Weekly

Progress Report

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1 CONTINUING TO COVER AREA A.



2 SURVEYORS ONSITE TO INSTALL SOIL MARKERS AT CORNERS OF SURFACE COVER AREAS.



3 AREA A COVER IS COMPLETED.



4 SOIL MARKER INSTALLATION CONTINUES.



5 STRAW IS PLACED IN AREA A.



6 STRAW IS TRACKED INTO AREA A.

## PLAN VIEW



## GENERAL COMMENTS

- CONTINUING DEMOBILIZATION ACTIVITIES.
- CONTINUING GENERAL SITE CLEAN-UP FOR JOB COMPLETION.
- COMMENCED AND COMPLETED INSTALLATION OF SOIL MARKERS AT CORNERS OF SURFACE COVER AREAS.
- CONTINUING AND COMPLETED COVERING AREA A WITH 1 FOOT OF GENERAL FILL.
- COMMENCED AND COMPLETED PLACING AND TRACKING STRAW IN AREA A.
- THIS WILL BE THE LAST WEEKLY PROGRESS REPORT FOR THIS PROJECT.





## **Appendix D**

Permits and Related Documentation



**WPDES Wastewater Discharge  
Permits and Associated  
Documentation**

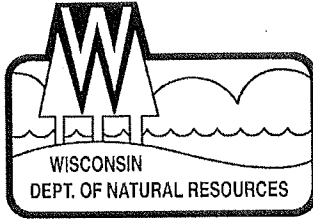
Pit/Trench Dewatering Permit

Discharge of Contaminated  
Groundwater from Remedial  
Action Operations Permit

September 2010 DMR

October 2010 DMR

Permit Termination E-mail



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Matthew J. Frank, Secretary  
John Gozdziwski, Regional Director

Northern Region Headquarters  
810 W. Maple Street  
Spooner, Wisconsin 54801  
Telephone 715-635-2101  
FAX 715-635-4105  
TTY 715-635-4001

July 27, 2010

FIN: 5752

Jane Patarcity  
Beazer East, Inc  
One Oxford Centre, Suite 3000  
Pittsburgh, PA 15219

Re: **Pit/Trench Dewatering Permit # WI-0049344-3**  
**Facility Name:** Koppers Inc -- Ditch restoration  
**Location:** NW ¼ of Section 13; T48N-R14W  
**Discharging to:** The groundwater of the St. Louis and Lower Nemadji Rivers  
Watershed, Douglas County

Good Morning:

I have reviewed your application for a Wisconsin Pollutant Discharge Elimination System Permit for discharge of uncontaminated groundwater and surface water from your construction corridor at the Koppers, Inc groundwater remediation site. The project involves the restoration of a 540 foot drainage ditch on the north end of the property. Segments of the ditch will be isolated by temporary coffer dams. The surface water will be pumped through filter bags and discharged to grassed upland areas. Once ground disturbance begins the groundwater encountered will be covered under the WPDES permit WI-0046566 for Contaminated Groundwater from Remedial Action Operations. The discharge will be directed to upland seepage location within the area describe in the application packet. A groundwater infiltration location was also requested for uncontaminated surface water removed from the concrete berm area. It has not been shown if an adequate upland groundwater infiltration site that is able handle the entire discharge amount can be found onsite. All additional groundwater infiltration sites (excluding the groundwater site approved in this cover letter) will need to be pre-approved by the Department.

*This discharge is hereby authorized under the attached general permit WI-0049344-3. A copy of the permit may be downloaded from the DNR website at <http://www.dnr.state.wi.us/org/water/wm/ww/gpindex/gpinfo.htm>. If, for any reason, you are unable to access these documents over the Internet, please contact me and I will mail them to you. Management of the project and control of the discharge must be done in compliance with the requirements of this permit and the additional conditions below.*

1. **Effective term** - Although the permit will be in effect until June 30, 2012, coverage at your facility will expire on December 31, 2011. This allows time to complete the project, but does not allow for additional or extended dewatering without further Department review.
2. **No discharges are authorized to outstanding or exceptional resource waters** - This permit does not authorize any discharges to Outstanding or Exceptional Resource Waters as defined and listed in Wisconsin Administrative Code NR 102.10 and NR 102.11.

3. **No discharges to wetlands** - This permit authorization does not allow any discharges to wetlands from your project, unless the Department determines, in writing, that the facility's discharge meets the wetland protection requirements of Ch. NR 103, Wis. Adm. Code.
4. **Effluent limits** - Discharge Limitations for Pit/Trench Dewatering are listed on page 3 of 8 under the section for Discharges to Groundwater in the permit.
  1. **Any exceedences of permit limits shall be reported to the Department 24 hours of the permittee becoming aware of the exceedance.**
  2. The average discharge flow shall be estimated for each dewatering project.
  3. Discharge oil and grease levels must stay below 15 mg/l. Oil and grease is not expected to reach levels of concern, therefore, monitoring requirements for oil and grease are waived [Page 5 of 8, (4.3)].
5. **Dewatering Events** - All discharges shall be observed by an on-site inspector at the discharge location and around the flow perimeter to assure there is no erosion caused by the discharge. If any sign of erosion is identified the discharge will be stopped and additional best management practices will be implemented until the problem is corrected. A log of all observations (rain events, visual character of discharge, erosion prevention measures taken, etc.) shall be kept on-site and made available upon request.
6. **Reporting** - Discharge Monitoring Reports summarizing monitoring results all for discharges must be **postmarked no later than the 15<sup>th</sup> day of the month following a month in which discharge occurred**, but may be sent to the address found on the bottom of the enclosed reporting form anytime prior to that date. Please make a copy of the blank DMR and fill in the appropriate month and year. Records required by this permit must be kept for the duration of the permit and made available for inspection by Department staff upon request. When the project is completed, send a letter stating that the permit is no longer required due to completion of project
7. **Prior notice of discharge** - Provide Charles Olson with your project schedule, anticipated dates and locations of discharges, and your local project manager's name and phone number. Chuck's phone number is 715/685-2925.

Section 283.35, Stats., authorizes the Department to issue a general permit for discharges from categories or classes of point sources. The Department may withdraw a facility from coverage under a general permit if it is determined that a discharge is a significant contributor of pollutants to waters of Wisconsin, if the source is not in compliance with the permit terms and conditions, if you request it and there would be site specific factors that would result in significantly different permit conditions, or in certain other cases set out in s. 283.35, Stats. In lieu of general permit withdrawal, the Department may refer any violation of this permit to the Department of Justice for enforcement under s. 283.89, Stats. In order to remain in compliance and avoid any enforcement action, **please read your permit carefully.**

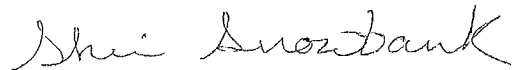
If you believe coverage of this facility under this general WPDES Permit is not appropriate, you may petition the Department for withdrawal of coverage and, where appropriate, apply for issuance of an individual WPDES permit pursuant to section 283.35(2). Issuance of such an individual permit will provide for a public comment period, and potentially a public informational hearing and/or an adjudicatory hearing.

To challenge the reasonableness of or necessity for any term or condition of the permit, s. 283.63, Stats., and ch. NR 203, Wis. Adm. Code, require that you file a verified petition for review with the Secretary of the Department of Natural Resources within 60 days after notice of the permit decision was issued by the Department. For other permit-related decisions, such as the decision to confer general permit coverage to your facility, that are not reviewable pursuant to s. 283.63, Stats., it may be possible for permittees or other persons to obtain an administrative review pursuant to s. 227.42, Stats., and s. NR 2.05(5), Wis.

Adm. Code, or a judicial review pursuant to s. 227.52, Stats. If you choose to pursue one of these options, you should know that Wisconsin Statutes and Administrative Code establish time periods within which requests to review Department decisions must be filed.

Feel free to contact me at 715/635-4131 or at [sheri.snowbank@wisconsin.gov](mailto:sheri.snowbank@wisconsin.gov) if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Sheri Snowbank".

Sheri Snowbank  
Wastewater Specialist

cc: Charles Olson, Ashland  
Jeff Brauer (via email)  
Chris Saari, Ashland  
David Bessingpas, ARCADIS, 6602 Excelsior Road, Baxter, MN 56425

**DISCHARGE MONITORING REPORT FORM**  
 (Pit/Trench Dewatering)  
 Permit No. WI-0049344-3  
 DMR Rev. 8.07.2007

Month/Year: \_\_\_\_\_

Permittee Name: Beezer East, Inc  
 Address: One Oxford Centre, Suite 3000  
 Pittsburgh, PA 15219  
 Contact: Jane Pataraciy  
 Location: Koppers, Inc, Superior  
 FIN: 5752

Outfall # and Description	Flow (gallons/day)	Total Suspended Solids (mg/l)	Oil and Grease (mg/l)	Additional Samples Taken at Same Outfall	Flow (gallons/day)	Total Suspended Solids (mg/l)	Oil and Grease (mg/l)
Sample #1 (Date )				Sample #5 (Date )			
Sample #2 (Date )				Sample #6 (Date )			
Sample #3 (Date )				Sample #7 (Date )			
Sample #4 (Date )				Sample #8 (Date )			
See Footnote.		(1)	(2)			(1)	(2)
Daily Maximum Limit	-	40 mg/l	15 mg/l	Daily Maximum Limit	-	40 mg/l	15 mg/l
Daily Minimum Limit	-	-	-	Daily Minimum Limit	-	-	-
Sample Frequency				Sample Frequency			
Sample Type	Estimate	Grab	Grab	Sample Type	Estimate	Grab	Grab

**FOOTNOTES:**

- (1) Total Suspended Solids monitoring is only required for discharges to surface waters
- (2) Oil and grease monitoring is required only if specified by the Department in the cover letter accompanying this permit.

RETURN REPORT BY: the 15<sup>th</sup> day of the month following the month sampled

RETURN TO: Wastewater Specialist  
 Department of Natural Resources  
 107 Sutliff Avenue  
 Rhinelander, WI 54501-0818

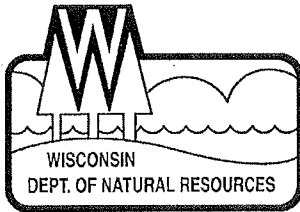
**DIRECTIONS:**

- See permit cover letter and permit for sampling frequency
- For "Outfall # and Description" enter the number of the outfall you are reporting (i.e., 001 or 002, etc.) and the source of wastewater (i.e., pit/trench dewatering, well dewatering). Copy and use a new form for each separate outfall.
- Enter the date each sample was taken next to the sample number
- Each daily value entered must be the highest value of all samples types analyzed for that day.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment, (40 CFR 122.5). I also certify that the values being submitted are the actual values found in the samples; no values have been modified or changed in any manner. Wherever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.

Signature of Person Completing Form \_\_\_\_\_ Date \_\_\_\_\_

Signature of Principal Exec. or Authorized Agent \_\_\_\_\_ Date \_\_\_\_\_



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Matthew J. Frank, Secretary  
John Gozdzialski, Regional Director

Northern Region Headquarters  
810 W. Maple Street  
Spooner, Wisconsin 54801  
Telephone 715-635-2101  
FAX 715-635-4105  
TTY Access via relay - 711

July 27, 2010

FIN: 5752

Jane Pataracity  
Beazer East, Inc  
One Oxford Centre, Suite 3000  
Pittsburgh, PA 15219

**SUBJECT: Coverage under General Permit WI-0046566-05, Discharge of Contaminated Groundwater from Remedial Action Operations**

Greetings:

The Department has reviewed your application for authorization to discharge treated, petroleum-contaminated groundwater from a remediation project at Kopper's Inc. 3185 S. County Road A, Superior, Wisconsin. The contamination is the result of wood-treating products.

Your proposed discharge is eligible for coverage under the general Wisconsin Pollutant Discharge Elimination System (WPDES) permit WI-0046566-5 for Discharge of Contaminated Groundwater from Remedial Action Operations. A copy of the permit may be downloaded from the DNR website at <http://www.dnr.state.wi.us/org/water/wm/ww/gpindex/gpinfo.htm> . If, for any reason, you are unable to access these documents over the Internet, please contact me and I will mail them to you. Your groundwater discharge must comply with all relevant provisions of the general permit and the conditions specified in this letter.

The project shall consist of the removal of approximately 67,500 gallons of surface water from within a concrete berm area. The water will be tested and if it meets surface water/ groundwater standards it will be discharged directly; if needed treatment will be provided by filtration and activated carbon. A ditch restoration project is also scheduled; any water coming into direct contact with exposed soil will be tested for contamination or sent directly to treatment. Ultimately, water meeting limitations will be discharged to Outfall 001 a drainage ditch west of the dewatering location. The ditch flows west to an unnamed intermittent stream which ends in Crawford Creek (a tributary to the Necedah River). A groundwater discharge location was also requested. It has not been shown if an adequate upland groundwater infiltration site that is able handle the entire discharge amount can be found onsite. All groundwater infiltration sites (excluding the groundwater site approved in the accompanying pit/trench dewatering WPDES permit WI-0049344) will need to be pre-approved by the Department. Any significant system changes will require Department approval.

Discharges under this permit are required to be consistent with a discharge management plan that has been approved by the Department. Your application submitted on July 8, 2010 will be considered as the required discharge management plan. The analysis results would indicate that monitoring is required for all parameters

listed in the permit on page 6 of 14, except for Total Recoverable Lead and Oil and Grease that are not at a level of concern.

Records of effluent volume and chemical monitoring data shall be submitted on discharge monitoring report (DMR) forms on a monthly basis. All sample results must be reported on the DMR. Reports are due on the 15th day of the month following the completion of the reporting month. The owner must sign the DMRs. DMRs should be sent to the Kris Foley whose address is indicated on the form.

Post treatment samples must meet the surface water limits listed in Part 3, page 6 of 14 as well as the groundwater limits listed in Part 5, page 10 of 14 of WPDES permit WI-0045655-05. The discharge limits are set to protect both surface water and groundwater quality since the discharge is to surface water that may have seepage to groundwater. The most restrictive limits will apply. Sampling for all parameters except flow is required prior to treatment and after treatment prior to discharge to Outfall 001.

1. Charles Olson, Wastewater Engineer for Douglas County, 715/685-2925, shall be notified:
  - Two (2) weeks prior to the start up of any discharge;
  - Within 24 hours if post-treatment concentrations of these parameters meet or exceed the discharge limits;
  - If free product is discovered;
  - One (1) week prior to usage of any cleaning solutions or additives.
2. The discharge shall be sampled weekly during the first six weeks of discharge and then monthly. The first set of samples must be taken within 24 hours of system start up.
3. All sample results must be reported on the DMR; this includes samples that exceed the frequency required by the permit and this letter.
4. Sampling and analysis for all parameters shall be **unfiltered**.
5. Sampling for suspended solids must be conducted any time a cleaning procedure is conducted. Sampling and analysis is not required during normal operating time.
6. A grab sample shall be analyzed for pH whenever treatment unit cleaning solutions are discharged, or when other activities could significantly change the pH of the water.
7. The discharge (outfall 001) location and the length of the ditch shall be visually inspected for signs of active erosion. If erosion is noted the discharge must be halted until best management practices are in place to correct the problem. Please note that the discharge at the end of the ditch must continue to meet the 40 mg/L total suspended solids limitation.
8. To maintain optimal treatment, the intake location must be inspected regularly or screened to ensure algae and other debris does not enter the treatment system.

Limits based on groundwater quality protection are set at the preventive action limits in ch. NR 140, Wis. Adm. Code. These limits are based on substances reported to be in the discharge, but may not necessarily include all substances of public health or welfare concern, which are in the discharge. However, nothing in this permit allows the permittee to discharge any substance in a concentration that would cause groundwater standards in Ch. NR 140 to be exceeded.



If you believe coverage of your facility under WPDES Permit No. WI-0046566-05 is not appropriate, you may petition the Department for withdrawal of coverage, and apply for issuance of an individual WPDES permit pursuant to section 147.023(2). Issuance of such an individual permit will provide for a public comment period, and the opportunity to request a public informational hearing and/or an adjudicatory hearing.

Alternatively, you may request judicial or administrative review of the Department's decision to cover your discharge under the enclosed general permit. Either request must be submitted no later than 30 days after this letter was mailed. To request judicial review of this decision pursuant to sections 227.52 and 227.53, Stats., a petition naming the Department of Natural Resources as respondent must be filed with the appropriate circuit court and served on the Department. To request a contested case hearing on this decision pursuant to section 227.42, Stats., a petition for hearing must be served on the Secretary of the Department of Natural Resources. This notice is provided pursuant to s. 227.48(2), Stats.

The Department may withdraw a facility from coverage under a general permit if it determines a discharge is a significant contributor of pollutants to waters of Wisconsin, if it finds the source is not in compliance with the permit terms and conditions, at your request, or in certain other cases set out in s. 147.023, Stats. It is important that you read and understand the terms and conditions of the general permit because, in lieu of general permit withdrawal, the Department may refer any violation of WPDES Permit No. WI-0046566-05 to the Department of Justice for enforcement under s. 147.29, Stats.

Please review the Wisconsin Pollutant Discharge Elimination System (WPDES) permit WI-0046566-05 carefully. If you have any questions about permit requirements or the contents of this letter, please feel free to contact me at 715-635-4131.

Sincerely,



Sheri Snowbank  
Wastewater Specialist

cc: Charles Olson, Ashland  
Jeff Brauer (via email)  
Chris Saari, Ashland  
David Bessingpas, ARCADIS, 6602 Excelsior Road, Baxter, MN 56425

DISCHARGE MONITORING REPORT FORM - Contaminated Groundwater

PERMITTEE NAME Beazer East, Inc (Koppers's)  
 ADDRESS One Oxford Centre, Suite 3000, Pittsburgh, PA 15219  
 FIN: 5752

FORM ILS-130.cgw  
 Revised 8/12/99

PERMIT NO. WI-0046566-5  
 YEAR: \_\_\_\_\_

Outfall Number	001	001	001	001	001	001	001
Sample Point Description							
Parameter Name	Flow	Total Suspended Solids	Oil and Grease	pH	Total BTEX	Toluene	
Parameter Units	Gal./Day	mg/l	mg/l	s.u.	ug/l	ug/l	
Months							
January - March							
April - June							
July - September							
October - December							
Daily Maximum Limit		40.0	10.0	9.0	750		
Daily Minimum Limit				6.0			
Sample Type	Estimate	Grab	Grab	Grab	Grab	Grab	Grab
Frequency of Sampling	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly

<p>Unless noted under parameter name, each daily value entered must be the highest value of all sample types analyzed for that day.</p> <p>WISCONSIN STATUTE 147.08</p> <p>I CERTIFY UNDER PENALTY TO LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTED FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT, (40 CFR 122.5). I ALSO CERTIFY THAT THE VALUES BEING SUBMITTED ARE THE ACTUAL VALUES FOUND IN THE SAMPLES; NO VALUES HAVE BEEN MODIFIED FOR CHANGED IN ANY MANNER. WHEREVER I BELIEVE A VALUE BEING REPORTED IS INACCURATE, I HAVE ADDED AN EXPLANATION INDICATING THE REASONS WHY THE VALUE IS INACCURATE.</p>	<p>PLEASE ATTACH NOTES AND/OR ADDRESS-NAME CORRECTIONS ON A SEPARATE SHEET</p> <p>RETURN REPORT NO LATER THAN: The 15th of the following month</p> <p>SEND TO: DEPARTMENT OF NATURAL RESOURCES                  107 Sutliff Avenue                  Rhinelander, WI 54501</p> <p>Attn: Kris Foley</p> <p>Signature of Person Completing Form _____ Date _____</p> <p>Signature of Principal Exec. Officer or Authorized Agent Title _____ Date _____</p>
---	--



Ms. Kris Foley  
WPDES Program  
Wisconsin Department of Natural Resources  
107 Sutliff Avenue  
Rhineland, WI 54501

Subject:

Koppers Inc. Superior, WI Facility  
Discharge Monitoring Report – September 2010  
WPDES Permit for Discharge of Contaminated Groundwater from Remedial Action  
Operations (WI-0046566-05)

Dear Ms. Foley:

On behalf of Beazer East Inc. (Beazer), ARCADIS is providing this Discharge Monitoring Report (DMR) for discharge of treated water generated during implementation of Resource Conservation and Recovery Act (RCRA) corrective measures at the Koppers Inc. (KI) facility in Superior, Wisconsin (the Site). Water is being treated and discharged in accordance with Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit WI-0046566-05 (the Permit), as authorized by the Wisconsin Department of Natural Resources (WDNR) on July 27, 2010. As indicated in WDNR's July 27, 2010 approval letter, the Request for Coverage submitted on July 6, 2010 serves as the Discharge Monitoring Plan for this project. As required by the Permit and Discharge Monitoring Plan, effluent flow rate tracking and chemical monitoring have been conducted for treated water discharges at the Site. This DMR provides flow rate tracking and chemical monitoring results for the month of September 2010<sup>1</sup>.

The attached Table 1 provides a daily summary of the water treatment activities at the Site. As indicated in Table 1, water treatment was initiated on September 2, 2010. During the month of September, approximately 65,000 gallons of water were treated on Site, of which approximately 51,000 gallons were discharged. Three post-treatment effluent samples were collected during the reporting period. Analytical results for the three samples are summarized in Table 2, and laboratory analytical data sheets are provided in Attachment 1.

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<sup>1</sup> Per an August 12, 2010 e-mail from Sheri Snowbank of the WDNR, Beazer is not required to submit the DMR form that was included with the WDNR's July 27, 2010 approval letter, but rather a summary of the estimated flow and laboratory analytical data sheets for the post-treatment effluent samples.

ARCADIS U.S., Inc.  
6602 Excelsior Road  
Baxter  
Minnesota 56425  
Tel 218.829.4607  
[www.arcadis-us.com](http://www.arcadis-us.com)

Environmental

Date:  
October 11, 2010

Contact:  
David Bessingpas

Phone:  
218.829.4607

Email:  
David.Bessingpas@  
arcadis-us.com

Our ref:  
B0039219.0000.00002

As indicated in Table 2, the first two effluent samples (WWTP-09022010 and WWTP-09132010) were below the permit-specified discharge limits for all parameters. The third sample (WWTP-09222010) exceeded permit-specified discharge limits for total and certain individual polycyclic aromatic hydrocarbons (PAHs). Based on these results, a carbon unit change-out has been scheduled. Following the carbon unit change-out, all water treated after collection of WWTP-09222010 (that is currently being held) will be re-treated prior to discharge.

If you have any questions, comments, or concerns please do not hesitate to contact me at 218.829.4607.

Sincerely,

ARCADIS U.S., Inc.



David Bessingpas  
Sr. Project Manager

Attachments:

Table 1 – Water Treatment/Discharge Volumes

Table 2 – Post-Treatment Effluent Sample Analytical Data

Attachment 1 – Laboratory Analytical Data Sheets

**Table 1 - Water Treatment/Discharge Volumes (September 2010)**

**Koppers Inc. Facility  
Superior, Wisconsin**

<b>Date</b>	<b>Volume Water Treated (gal)</b>	<b>Volume Treated Water Discharged (gal)</b>	<b>Sample Collected</b>
9/2/10	10,000		WWTP-09022010
9/3/10			
9/4/10			
9/5/10			
9/6/10			
9/7/10			
9/8/10	10,000		
9/9/10	10,000	10,000	
9/10/10		10,000	
9/11/10	10,000	10,000	
9/12/10			
9/13/10	5,000	10,000	WWTP-09132010
9/14/10		5,000	
9/15/10			
9/16/10			
9/17/10			
9/18/10			
9/19/10			
9/20/10	10,000		
9/21/10	10,000		
9/22/10		6,000	WWTP-09222010
9/23/10			
9/24/10			
9/25/10			
9/26/10			
9/27/10			
9/28/10			
9/29/10			
9/30/10			
<b>Total:</b>	<b>65,000</b>	<b>51,000</b>	

**Note:**

1. All volumes are approximate.

Table 2 - Post-Treatment Effluent Sample Analytical Data (September 2010)

Koppers Inc. Facility  
Superior, Wisconsin

Analyte	Permit Discharge Limit <sup>1</sup>	Units	WWTP-09022010 9/2/2010	WWTP-09132010 9/13/2010	WWTP-09222010 9/22/2010
<b>BETX</b>					
Benzene	0.5 B	ug/L	ND (0.11)	ND (0.11)	ND (0.11)
Ethylbenzene	140 B	ug/L	ND (0.15)	ND (0.15)	ND (0.15)
Toluene	200 B	ug/L	ND (0.23)	ND (0.23)	ND (0.23)
Xylenes (total)	--	ug/L	ND (0.49)	ND (0.49)	ND (0.49)
Total BETX	750 A	ug/L	ND	ND	ND
<b>PAHs/Pentachlorophenol</b>					
Benzo(a)anthracene *	--	ug/L	ND (0.016)	ND (0.015)	<b>1.8</b>
Benzo(a)pyrene	0.02 B	ug/L	ND (0.015)	ND (0.013)	<b>1.4</b>
Benzo(b)fluoranthene *	0.02 B	ug/L	ND (0.017)	ND (0.016)	<b>2.1</b>
Benzo(g,h,i)perylene *	--	ug/L	ND (0.017)	ND (0.015)	<b>1.7</b>
Benzo(k)fluoranthene *	--	ug/L	ND (0.061)	ND (0.054)	<b>1.4</b>
Chrysene *	0.02 B	ug/L	ND (0.016)	ND (0.014)	<b>1.4</b>
Dibenzo(a,h)anthracene *	--	ug/L	ND (0.017)	ND (0.015)	<b>1.7</b>
Fluoranthene *	80 B	ug/L	ND (0.018)	ND (0.016)	<b>2.1</b>
Fluorene	80 B	ug/L	ND (0.024)	<b>0.021 J</b>	<b>0.14 J</b>
Indeno(1,2,3-cd)pyrene *	--	ug/L	ND (0.022)	ND (0.020)	<b>1.9</b>
Naphthalene	10 B	ug/L	ND (0.016)	ND (0.014)	ND (0.015)
Phenanthrene *	--	ug/L	<b>0.076 J</b>	<b>0.066 J</b>	<b>0.87</b>
Pyrene *	50 B	ug/L	ND (0.017)	ND (0.016)	<b>1.7</b>
Total PAHs <sup>2</sup>	0.1 A	ug/L	<b>0.076 J</b>	<b>0.066 J</b>	<b>16.7</b>
Pentachlorophenol	0.1 C	ug/L	ND (0.074)	ND (0.066)	ND (0.070)
Total Suspended Solids	40 A	mg/L	ND (2.0)	ND (2.0)	<b>4.4</b>

**Notes:**

J = Estimated result; value is less than the Reporting Limit

ND = Not detected (associated value is the Method Detection Limit)

**Bold indicates detected value**

**Shading indicates value exceeds permit discharge limit**

1. Sources of permit discharge limits are as follows:

A: WPDES Permit WI-0046566-5 Section 3.1

B: WPDES Permit WI-0046566-5 Section 5.5

C: WPDES Permit WI-0046566-5 Section 5.6

2. Per WPDES Permit WI-0046566-5 Section 3.5, Total PAHs is the sum of the ten individual PAH compounds marked with an asterisk.

ARCADIS

**Attachment 1**

Laboratory Analytical Data Sheets

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09022010

GC/MS Volatiles

Lot-Sample #...: C0I030433-001    Work Order #...: L6HNV1AC    Matrix.....: WATER  
Date Sampled...: 09/02/10    Date Received..: 09/03/10    MS Run #.....: 0250109  
Prep Date.....: 09/07/10    Analysis Date..: 09/07/10  
Prep Batch #...: 0250203    Analysis Time..: 10:36  
Dilution Factor: 1  
Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	1.0	ug/L	0.11
Ethylbenzene	ND	1.0	ug/L	0.23
Toluene	ND	1.0	ug/L	0.15
Xylenes (total)	ND	3.0	ug/L	0.49

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	97	(71 - 118)
1,2-Dichloroethane-d4	111	(64 - 135)
4-Bromofluorobenzene	98	(70 - 118)
Dibromofluoromethane	93	(70 - 128)



ARCADIS U.S., Inc.

Client Sample ID: WWTP-09022010

GC/MS Semivolatiles

Lot-Sample #...: C0I030433-001    Work Order #...: L6HNV1AD    Matrix.....: WATER  
 Date Sampled...: 09/02/10    Date Received...: 09/03/10    MS Run #.....:  
 Prep Date.....: 09/04/10    Analysis Date...: 09/07/10  
 Prep Batch #...: 0247071    Analysis Time...: 15:27  
 Dilution Factor: 1.11  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Naphthalene	ND	0.22	ug/L	0.016
Acenaphthylene	ND	0.22	ug/L	0.017
Acenaphthene	ND	0.22	ug/L	0.016
Fluorene	ND	0.22	ug/L	0.024
<b>Phenanthrene</b>	<b>0.076 J</b>	<b>0.22</b>	<b>ug/L</b>	<b>0.047</b>
Anthracene	ND	0.22	ug/L	0.017
Fluoranthene	ND	0.22	ug/L	0.018
Pyrene	ND	0.22	ug/L	0.017
Benzo(a)anthracene	ND	0.22	ug/L	0.016
Chrysene	ND	0.22	ug/L	0.016
Benzo(b)fluoranthene	ND	0.22	ug/L	0.017
Benzo(k)fluoranthene	ND	0.22	ug/L	0.061
Benzo(a)pyrene	ND	0.22	ug/L	0.015
Indeno(1,2,3-cd)pyrene	ND	0.22	ug/L	0.022
Dibenzo(a,h)anthracene	ND	0.22	ug/L	0.017
Benzo(ghi)perylene	ND	0.22	ug/L	0.017
Pentachlorophenol	ND	1.1	ug/L	0.074

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	71	(23 - 112)
Terphenyl-d14	65	(10 - 132)
2-Fluorobiphenyl	67	(19 - 107)
2-Fluorophenol	66	(10 - 111)
Phenol-d5	66	(15 - 112)
2,4,6-Tribromophenol	64	(16 - 122)

**NOTE(S):**

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09022010

General Chemistry

Lot-Sample #...: C0I030433-001    Work Order #...: L6HNV    Matrix.....: WATER  
Date Sampled...: 09/02/10    Date Received..: 09/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	ND	4.0	mg/L	SM20 2540D	09/03/10	0246127

Dilution Factor: 1    Analysis Time..: 14:55    MS Run #.....: 0246067  
MDL.....: 2.0

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09132010

GC/MS Volatiles

Lot-Sample #...: C0I150415-001    Work Order #...: L60271AD    Matrix.....: WATER  
Date Sampled...: 09/13/10    Date Received..: 09/14/10    MS Run #.....: 0258218  
Prep Date.....: 09/15/10    Analysis Date..: 09/16/10  
Prep Batch #...: 0258415    Analysis Time..: 01:26  
Dilution Factor: 1  
Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	1.0	ug/L	0.11
Ethylbenzene	ND	1.0	ug/L	0.23
Toluene	ND	1.0	ug/L	0.15
Xylenes (total)	ND	3.0	ug/L	0.49

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	98	(64 - 135)
4-Bromofluorobenzene	97	(70 - 118)
Dibromofluoromethane	99	(70 - 128)

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09132010

GC/MS Semivolatiles

**Lot-Sample #...**: C0I150415-001    **Work Order #...**: L60271AA    **Matrix.....**: WATER  
**Date Sampled...**: 09/13/10    **Date Received..**: 09/14/10    **MS Run #.....**: 0259198  
**Prep Date.....**: 09/16/10    **Analysis Date..**: 09/17/10  
**Prep Batch #...**: 0259345    **Analysis Time..**: 23:50  
**Dilution Factor**: 0.99  
**Method.....**: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Naphthalene	ND	0.20	ug/L	0.014
Acenaphthylene	ND	0.20	ug/L	0.015
Acenaphthene	ND	0.20	ug/L	0.014
<b>Fluorene</b>	<b>0.021 J</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.021</b>
<b>Phenanthrene</b>	<b>0.066 J</b>	<b>0.20</b>	<b>ug/L</b>	<b>0.042</b>
Anthracene	ND	0.20	ug/L	0.015
Fluoranthene	ND	0.20	ug/L	0.016
Pyrene	ND	0.20	ug/L	0.016
Benzo(a)anthracene	ND	0.20	ug/L	0.015
Chrysene	ND	0.20	ug/L	0.014
Benzo(b)fluoranthene	ND	0.20	ug/L	0.016
Benzo(k)fluoranthene	ND	0.20	ug/L	0.054
Benzo(a)pyrene	ND	0.20	ug/L	0.013
Indeno(1,2,3-cd)pyrene	ND	0.20	ug/L	0.020
Dibenzo(a,h)anthracene	ND	0.20	ug/L	0.015
Benzo(ghi)perylene	ND	0.20	ug/L	0.015
Pentachlorophenol	ND	0.99	ug/L	0.066

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	83	(23 - 112)
Terphenyl-d14	76	(10 - 132)
2-Fluorobiphenyl	85	(19 - 107)
2-Fluorophenol	74	(10 - 111)
Phenol-d5	72	(15 - 112)
2,4,6-Tribromophenol	84	(16 - 122)

**NOTE(S):**

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09132010

General Chemistry

Lot-Sample #...: C0I150415-001

Work Order #...: L6027

Matrix.....: WATER

Date Sampled...: 09/13/10

Date Received..: 09/14/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Total Suspended Solids	ND	4.0	mg/L	SM20 2540D	09/16-09/17/10	0259185

Dilution Factor: 1

Analysis Time..: 04:05

MS Run #.....: 0259120

MDL.....: 2.0

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09222010

GC/MS Volatiles

Lot-Sample #...: C0I230494-001    Work Order #...: L7DRV1AD    Matrix.....: WATER  
Date Sampled...: 09/22/10    Date Received..: 09/23/10    MS Run #.....: 0267090  
Prep Date.....: 09/24/10    Analysis Date..: 09/24/10  
Prep Batch #...: 0267159    Analysis Time..: 15:54  
Dilution Factor: 1  
Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	1.0	ug/L	0.11
Ethylbenzene	ND	1.0	ug/L	0.23
Toluene	ND	1.0	ug/L	0.15
Xylenes (total)	ND	3.0	ug/L	0.49

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	102	(71 - 118)
1,2-Dichloroethane-d4	113	(64 - 135)
4-Bromofluorobenzene	104	(70 - 118)
Dibromofluoromethane	106	(70 - 128)

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09222010

GC/MS Semivolatiles

Lot-Sample #...: C0I230494-001    Work Order #...: L7DRV1AA    Matrix.....: WATER  
 Date Sampled...: 09/22/10    Date Received...: 09/23/10    MS Run #.....:  
 Prep Date.....: 09/24/10    Analysis Date...: 09/28/10  
 Prep Batch #...: 0268030    Analysis Time...: 17:33  
 Dilution Factor: 1.06  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Naphthalene	ND	0.21	ug/L	0.015
Acenaphthylene	ND	0.21	ug/L	0.016
<b>Acenaphthene</b>	<b>0.055 J</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.015</b>
<b>Fluorene</b>	<b>0.14 J</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.023</b>
<b>Phenanthrene</b>	<b>0.87</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.045</b>
<b>Anthracene</b>	<b>0.66</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>
<b>Fluoranthene</b>	<b>2.1</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.017</b>
<b>Pyrene</b>	<b>1.7</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.017</b>
<b>Benzo(a)anthracene</b>	<b>1.8</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>
<b>Chrysene</b>	<b>1.4</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.015</b>
<b>Benzo(b)fluoranthene</b>	<b>2.1</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.017</b>
<b>Benzo(k)fluoranthene</b>	<b>1.4</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.058</b>
<b>Benzo(a)pyrene</b>	<b>1.4</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.014</b>
<b>Indeno(1,2,3-cd)pyrene</b>	<b>1.9</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.021</b>
<b>Dibenzo(a,h)anthracene</b>	<b>1.7</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>
<b>Benzo(ghi)perylene</b>	<b>1.7</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>
Pentachlorophenol	ND	1.1	ug/L	0.070

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	100	(23 - 112)
Terphenyl-d14	93	(10 - 132)
2-Fluorobiphenyl	106	(19 - 107)
2-Fluorophenol	93	(10 - 111)
Phenol-d5	93	(15 - 112)
2,4,6-Tribromophenol	107	(16 - 122)

**NOTE(S):**

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: WWTP-09222010

General Chemistry

Lot-Sample #...: C0I230494-001    Work Order #...: L7DRV    Matrix.....: WATER  
Date Sampled...: 09/22/10    Date Received..: 09/23/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	4.4	4.0	mg/L	SM20 2540D	09/24-09/27/10	0267213

Dilution Factor: 1    Analysis Time..: 05:20    MS Run #.....: 0267103  
MDL.....: 2.0





Mr. Kris Foley  
WPDES Program  
Wisconsin Department of Natural Resources  
107 Sutliff Avenue  
Rhineland, WI 54501

ARCADIS U.S., Inc.  
6602 Excelsior Road  
Baxter  
Minnesota 56425  
Tel 218.829.4607  
[www.arcadis-us.com](http://www.arcadis-us.com)

Subject:

Koppers Inc. Superior, WI Facility  
Discharge Monitoring Report – October 2010  
WPDES Permit for Discharge of Contaminated Groundwater from Remedial Action  
Operations (WI-0046566-05)

ENVIRONMENTAL

Dear Ms. Foley:

Date:  
November 12, 2010

On behalf of Beazer East Inc. (Beazer), ARCADIS is providing this Discharge Monitoring Report for water generated during implementation of Resource Conservation and Recovery Act (RCRA) corrective measures at the Koppers Inc. (KI) facility in Superior, Wisconsin (the Site). Water treatment operations are being conducted in accordance with the Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit WI-0046566-05 (the Permit), as authorized by the Wisconsin Department of Natural Resources (WDNR) on July 27, 2010. As indicated in WDNR's July 27, 2010 approval letter, the Request for Coverage submitted on July 6, 2010 serves as the Discharge Monitoring Plan for this project. This DMR provides chemical monitoring results for the month of October 2010<sup>1</sup>. No discharges occurred during this reporting period.

Contact:  
David Bessingpas

Phone:  
218.829.4607

Email:  
David.Bessingpas@  
arcadis-us.com

Our ref:  
B0039219.0000.00002

As indicated in the September 2010 DMR (dated October 11, 2010), the effluent sample collected on September 22, 2010 (WWTP-09222010) exceeded permit-specified discharge limits for total and certain individual polycyclic aromatic hydrocarbons (PAHs). Based on these results, a carbon unit change-out was conducted on October 20, 2010. The following is a summary of the treatment system operations and samples collected following the carbon unit change-out. Analytical results for the collected effluent samples are summarized in Table 1, and laboratory analytical data sheets are provided in Attachment 1:

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<sup>1</sup> Per an August 12, 2010 e-mail from Sheri Snowbank of the WDNR, Beazer is not required to submit the DMR form that was included with the WDNR's July 27, 2010 approval letter, but rather a summary of the estimated flow and laboratory analytical data sheets for the post treatment effluent samples.

- All water treated after collection of WWTP-09222010 was re-treated and held, and a sample of the treated/held water was collected on October 21, 2010 (WWTP-10212010). The results indicated exceedances of the permit-specified discharge limits for total and certain individual PAHs (Table 1).
- Based on the treatment plant provider's recommendation, the pre-carbon bag filters (25 micron sock filters) were replaced on October 28, 2010. All water was re-treated and held, and a sample of the treated/held water was collected on October 28, 2010 (WWTP-10282010). The results indicated exceedances of the permit-specified discharge limits for total and certain individual PAHs (Table 1).
- Based on the treatment plant provider's recommendation, the 25 micron bag filters were replaced with 10 micron filters on October 30, 2010. All water was re-treated and held, and a sample of the treated/held water was collected on November 2, 2010 (WWTP-11022010). The results indicated exceedances of the permit-specified discharge limits for total and certain individual PAHs and pentachlorophenol (Table 1).
- All treated water is currently being held, and Beazer and the treatment plant provider are discussing potential next steps for achieving the permit-specified discharge limits.

If you have any questions, comments, or concerns please do not hesitate to contact me at 218.829.4607.

Sincerely,

ARCADIS U.S., Inc.



David Bessingpas  
Sr. Project Manager

Copies:

Chris Saari, WDNR  
Bruce Moore, WDNR  
Sheri Snowbank, WDNR  
Jane Patarcity, Beazer  
Jeffrey Holden, ARCADIS  
Hillary Evanko, ARCADIS

**Table 1 - Post-Treatment Effluent Sample Analytical Data (October/November 2010)**

**Koppers Inc. Facility  
Superior, Wisconsin**

Analyte	Permit Discharge Limit <sup>1</sup>	Units	WWTP-1021010 10/21/2010	WWTP-10282010 10/28/2010	WWTP-11022010 11/02/2010
<b>BETX</b>					
Benzene	0.5 B	ug/L	ND (0.11)	ND (0.11)	ND (0.11)
Ethylbenzene	140 B	ug/L	ND (0.15)	ND (0.15)	ND (0.15)
Toluene	200 B	ug/L	ND (0.23)	ND (0.23)	ND (0.23)
Xylenes (total)	--	ug/L	ND (0.49)	ND (0.49)	ND (0.49)
Total BETX	750 A	ug/L	ND	ND	ND
<b>PAHs/Pentachlorophenol</b>					
Benzo(a)anthracene *	--	ug/L	<b>0.93</b>	<b>0.54</b>	<b>1.2</b>
Benzo(a)pyrene	0.02 B	ug/L	<b>0.54</b>	<b>0.42</b>	<b>0.6</b>
Benzo(b)fluoranthene *	0.02 B	ug/L	<b>1</b>	<b>0.9</b>	<b>1.4</b>
Benzo(g,h,i)perylene *	--	ug/L	<b>0.20 J</b>	<b>0.2</b>	<b>0.26</b>
Benzo(k)fluoranthene *	--	ug/L	ND (0.058)	ND (0.019)	ND (0.053)
Chrysene *	0.02 B	ug/L	<b>0.74</b>	<b>0.55</b>	<b>0.95</b>
Dibenzo(a,h)anthracene *	--	ug/L	<b>0.077 J</b>	ND (0.019)	<b>0.27</b>
Fluoranthene *	80 B	ug/L	<b>1.7</b>	<b>0.96</b>	<b>2.4</b>
Fluorene	80 B	ug/L	<b>0.17 J</b>	<b>0.05 J</b>	<b>0.11 J</b>
Indeno(1,2,3-cd)pyrene *	--	ug/L	<b>0.18 J</b>	<b>0.19</b>	<b>0.22</b>
Naphthalene	10 B	ug/L	ND (0.015)	ND (0.019)	ND (0.013)
Phenanthrene *	--	ug/L	<b>0.49</b>	<b>0.2</b>	<b>0.46</b>
Pyrene *	50 B	ug/L	<b>1.3</b>	<b>0.95</b>	<b>2.3</b>
Total PAHs <sup>2</sup>	0.1 A	ug/L	<b>6.6</b>	<b>4.5</b>	<b>9.46</b>
Pentachlorophenol	0.1 C	ug/L	ND (0.070)	ND (0.070)	<b>0.70 J</b>
Total Suspended Solids	40 A	mg/L	<b>25.6</b>	<b>16.5</b>	<b>14.8</b>

**Notes:**

J = Estimated result; value is less than the Reporting Limit  
 ND = Not detected (associated value is the Method Detection Limit)

**Bold indicates detected value**

**Shading indicates value exceeds permit discharge limit**

- Sources of permit discharge limits are as follows:
  - WPDES Permit WI-0046566-5 Section 3.1
  - WPDES Permit WI-0046566-5 Section 5.5
  - WPDES Permit WI-0046566-5 Section 5.6
- Per WPDES Permit WI-0046566-5 Section 3.5, Total PAHs is the sum of the ten individual PAH compounds marked with an asterisk.
- No treated water was discharged during this reporting period.

ARCADIS

**Attachment 1**

Laboratory Analytical Data Sheets

ARCADIS U.S., Inc.

Client Sample ID: WWTP-10212010

GC/MS Volatiles

Lot-Sample #...: C0J220412-001    Work Order #...: L8W891AC    Matrix.....: WATER  
Date Sampled...: 10/21/10    Date Received...: 10/22/10    MS Run #.....: 0296030  
Prep Date.....: 10/23/10    Analysis Date...: 10/23/10  
Prep Batch #...: 0296057    Analysis Time...: 13:46  
Dilution Factor: 1  
Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	1.0	ug/L	0.11
Ethylbenzene	ND	1.0	ug/L	0.23
Toluene	ND	1.0	ug/L	0.15
Xylenes (total)	ND	3.0	ug/L	0.49

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	96	(71 - 118)
1,2-Dichloroethane-d4	102	(64 - 135)
4-Bromofluorobenzene	98	(70 - 118)
Dibromofluoromethane	97	(70 - 128)

ARCADIS U.S., Inc.

Client Sample ID: WWTP-10212010

GC/MS Semivolatiles

Lot-Sample #...: C0J220412-001    Work Order #...: L8W891AD    Matrix.....: WATER  
 Date Sampled...: 10/21/10    Date Received..: 10/22/10    MS Run #.....:  
 Prep Date.....: 10/22/10    Analysis Date..: 10/25/10  
 Prep Batch #...: 0295144    Analysis Time..: 03:36  
 Dilution Factor: 1.06  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Pentachlorophenol	ND	1.1	ug/L	0.070
Naphthalene	ND	0.21	ug/L	0.015
<b>Fluorene</b>	<b>0.17 J</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.023</b>
<b>Phenanthrene</b>	<b>0.49</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.045</b>
<b>Fluoranthene</b>	<b>1.7</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.017</b>
<b>Pyrene</b>	<b>1.3</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.017</b>
<b>Benzo(a)anthracene</b>	<b>0.93</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>
<b>Chrysene</b>	<b>0.74</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.015</b>
<b>Benzo(b)fluoranthene</b>	<b>1.0</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.017</b>
Benzo(k)fluoranthene	ND	0.21	ug/L	0.058
<b>Benzo(a)pyrene</b>	<b>0.54</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.014</b>
<b>Indeno(1,2,3-cd)pyrene</b>	<b>0.18 J</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.021</b>
<b>Dibenzo(a,h)anthracene</b>	<b>0.077 J</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>
<b>Benzo(ghi)perylene</b>	<b>0.20 J</b>	<b>0.21</b>	<b>ug/L</b>	<b>0.016</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70	(23 - 112)
Terphenyl-d14	71	(10 - 132)
2-Fluorobiphenyl	72	(19 - 107)
2-Fluorophenol	80	(10 - 111)
Phenol-d5	75	(15 - 112)
2,4,6-Tribromophenol	75	(16 - 122)

**NOTE(S):**

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: WWTP-10212010

General Chemistry

Lot-Sample #...: C0J220412-001      Work Order #...: L8W89      Matrix.....: WATER  
Date Sampled...: 10/21/10      Date Received..: 10/22/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	25.6	4.0	mg/L	SM20 2540D	10/25-10/26/10	0298193

Dilution Factor: 1      Analysis Time..: 08:13      MS Run #.....: 0298120  
MDL.....: 2.0

ARCADIS U.S., Inc.

Client Sample ID: WWTP-10282010

GC/MS Volatiles

Lot-Sample #...: C0J290413-001    Work Order #...: L896T1AC    Matrix.....: WATER  
Date Sampled...: 10/28/10    Date Received..: 10/29/10    MS Run #.....: 0305124  
Prep Date.....: 11/01/10    Analysis Date..: 11/01/10  
Prep Batch #...: 0305199    Analysis Time..: 11:51  
Dilution Factor: 1  
Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	1.0	ug/L	0.11
Ethylbenzene	ND	1.0	ug/L	0.23
Toluene	ND	1.0	ug/L	0.15
Xylenes (total)	ND	3.0	ug/L	0.49

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	92	(71 - 118)
1,2-Dichloroethane-d4	99	(64 - 135)
4-Bromofluorobenzene	102	(70 - 118)
Dibromofluoromethane	94	(70 - 128)



ARCADIS U.S., Inc.

Client Sample ID: WWTP-10282010

GC/MS Semivolatiles

Lot-Sample #...: C0J290413-001    Work Order #...: L896T1AD    Matrix.....: WATER  
 Date Sampled...: 10/28/10    Date Received..: 10/29/10    MS Run #.....:  
 Prep Date.....: 10/31/10    Analysis Date..: 11/02/10  
 Prep Batch #...: 0304049    Analysis Time..: 12:59  
 Dilution Factor: 0.96  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Pentachlorophenol	ND	0.96	ug/L	0.064
Naphthalene	ND	0.19	ug/L	0.013
<b>Fluorene</b>	<b>0.050 J</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.021</b>
<b>Phenanthrene</b>	<b>0.20</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.041</b>
<b>Fluoranthene</b>	<b>0.96</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.016</b>
<b>Pyrene</b>	<b>0.95</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.015</b>
<b>Benzo(a)anthracene</b>	<b>0.54</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.014</b>
<b>Chrysene</b>	<b>0.55</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.013</b>
<b>Benzo(b)fluoranthene</b>	<b>0.90</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.015</b>
Benzo(k)fluoranthene	ND	0.19	ug/L	0.053
<b>Benzo(a)pyrene</b>	<b>0.42</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.013</b>
<b>Indeno(1,2,3-cd)pyrene</b>	<b>0.19</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.019</b>
Dibenzo(a,h)anthracene	ND	0.19	ug/L	0.015
<b>Benzo(ghi)perylene</b>	<b>0.20</b>	<b>0.19</b>	<b>ug/L</b>	<b>0.014</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	79	(23 - 112)
Terphenyl-d14	80	(10 - 132)
2-Fluorobiphenyl	82	(19 - 107)
2-Fluorophenol	73	(10 - 111)
Phenol-d5	69	(15 - 112)
2,4,6-Tribromophenol	96	(16 - 122)

**NOTE(S):**

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: WWTP-10282010

General Chemistry

Lot-Sample #...: C0J290413-001    Work Order #...: L896T    Matrix.....: WATER  
Date Sampled...: 10/28/10    Date Received..: 10/29/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	16.5	4.0	mg/L	SM20 2540D	11/01-11/02/10	0305268

Dilution Factor: 1    Analysis Time..: 09:18    MS Run #.....: 0305162  
MDL.....: 2.0

ARCADIS U.S., Inc.

Client Sample ID: WWTP-11022010

GC/MS Volatiles

Lot-Sample #...: C0K030415-001    Work Order #...: L9GE01AC    Matrix.....: WATER  
Date Sampled...: 11/02/10    Date Received..: 11/03/10    MS Run #.....: 0309108  
Prep Date.....: 11/05/10    Analysis Date..: 11/05/10  
Prep Batch #...: 0309192    Analysis Time..: 12:53  
Dilution Factor: 1  
Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	1.0	ug/L	0.11
Ethylbenzene	ND	1.0	ug/L	0.23
Toluene	ND	1.0	ug/L	0.15
Xylenes (total)	ND	3.0	ug/L	0.49

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	99	(71 - 118)
1,2-Dichloroethane-d4	88	(64 - 135)
4-Bromofluorobenzene	97	(70 - 118)
Dibromofluoromethane	94	(70 - 128)

ARCADIS U.S., Inc.

Client Sample ID: WWTP-11022010

GC/MS Semivolatiles

Lot-Sample #...: C0K030415-001    Work Order #...: L9GE01AD    Matrix.....: WATER  
 Date Sampled...: 11/02/10    Date Received..: 11/03/10    MS Run #.....:  
 Prep Date.....: 11/04/10    Analysis Date..: 11/05/10  
 Prep Batch #...: 0308328    Analysis Time..: 12:37  
 Dilution Factor: 0.96  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Pentachlorophenol	0.70 J	0.96	ug/L	0.064
Naphthalene	ND	0.19	ug/L	0.013
Fluorene	0.11 J	0.19	ug/L	0.021
Phenanthrene	0.46	0.19	ug/L	0.041
Fluoranthene	2.4	0.19	ug/L	0.016
Pyrene	2.3	0.19	ug/L	0.015
Benzo(a)anthracene	1.2	0.19	ug/L	0.014
Chrysene	0.95	0.19	ug/L	0.013
Benzo(b)fluoranthene	1.4	0.19	ug/L	0.015
Benzo(k)fluoranthene	ND	0.19	ug/L	0.053
Benzo(a)pyrene	0.60	0.19	ug/L	0.013
Indeno(1,2,3-cd)pyrene	0.22	0.19	ug/L	0.019
Dibenzo(a,h)anthracene	0.27	0.19	ug/L	0.015
Benzo(ghi)perylene	0.26	0.19	ug/L	0.014

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	87	(23 - 112)
Terphenyl-d14	102	(10 - 132)
2-Fluorobiphenyl	96	(19 - 107)
2-Fluorophenol	82	(10 - 111)
Phenol-d5	79	(15 - 112)
2,4,6-Tribromophenol	118	(16 - 122)

**NOTE(S):**

J Estimated result. Result is less than RL.

ARCADIS U.S., Inc.

Client Sample ID: WWTP-11022010

General Chemistry

Lot-Sample #...: COK030415-001      Work Order #...: L9GE0      Matrix.....: WATER  
Date Sampled...: 11/02/10      Date Received..: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Total Suspended Solids	14.8	4.0	mg/L	SM20 2540D	11/05/10	0308301

Dilution Factor: 1      Analysis Time..: 14:30      MS Run #.....: 0308154  
MDL.....: 2.0

## Evanko, Hillary

---

**From:** Foley, Kristine - DNR [Kristine.Foley@Wisconsin.gov]  
**Sent:** Friday, February 11, 2011 1:44 PM  
**To:** Bessingpas, David; Snowbank, Sheri A - DNR  
**Cc:** Olson, Charles L - DNR; Patarcity, Jane (Pittsburgh) NA; Holden, Jeffrey; Evanko, Hillary  
**Subject:** RE: Koppers Facility, Superior, WI

To: David Bessingpas

Your discharge reports are complete, and coverage for Koppers Inc. under the WPDES General Permits for Contaminated Groundwater and Dewatering have been discontinued as of today.



WPDES Program Assistant  
Wisconsin Department of Natural Resources  
107 Sutliff Avenue  
Rhineland, WI 54501  
**phone:** (715) 365-8902  
**fax:** (715) 365-8932  
**e-mail:** Kristine.Foley@wisconsin.gov

~ Please consider the environment before printing this e-mail. ~

---

From: Bessingpas, David [mailto:David.Bessingpas@arcadis-us.com]  
Sent: Wednesday, February 09, 2011 10:02 AM  
To: Snowbank, Sheri A - DNR  
Cc: Foley, Kristine - DNR; Olson, Charles L - DNR; Patarcity, Jane (Pittsburgh) NA; Holden, Jeffrey; Evanko, Hillary  
Subject: RE: Koppers Facility, Superior, WI

Ms. Snowbank,

I wanted to provide you with an update on the Koppers project in Superior. We have some site restoration work to complete this spring, but other than that the project is complete. Accordingly, we are requesting that the two WPDES General Permits (WI-0049344-3 Pit/Trench Dewatering and WI-0046566-5 Discharge of Contaminated Groundwater from Remedial Action Operations) be terminated for this project.

In total, approximately 51,000 gallons of water were treated and discharged on-site in accordance with the Discharge of Contaminated Groundwater from Remedial Action Operations. The discharges were documented on Discharge Monitoring Reports dated October 11 and November 12, 2010. A total of approximately 26,000 gallons of treated water to the Superior POTW. No discharges in accordance with the Pit/Trench Dewatering General Permit were required for this project.

Please let me know if you have any questions or need any additional information.

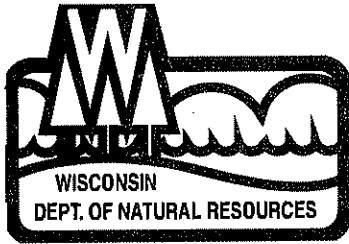
Sincerely,

David Bessingpas | [david.bessingpas@arcadis-us.com](mailto:david.bessingpas@arcadis-us.com)

ARCADIS U.S., Inc. | 6602 Excelsior Road | Baxter, MN 56425  
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**WDNR Water Quality  
Certification**



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Matthew J. Frank, Secretary  
John Gozdzialski, Regional Director

Superior Service Center  
1701 North 4<sup>th</sup> Street  
Superior, Wisconsin 54880  
Telephone 715-392-7988  
FAX 715-392-7993

07/28/2010

IP-NO-2010-16-00778  
Corps #2008-04938JRB

Beazer East Inc.  
One Oxford Center, Suite 300  
Pittsburgh, PA 15219

RECEIVED AUG 0 1 2010

Jane Patarcity:

The Department of Natural Resources has evaluated your request for water quality certification pursuant to Section 401 of the federal Clean Water Act and Chapter NR 299, Wisconsin Administrative Code or s. 281.36(2), Wis. Stats., to place a cap over areas of contamination. This project affects 3.25 acres of wetlands.

Our records indicate your project is located in the in the NE1/4 of the NW1/4 of Section 13, Township 48 North, Range 14 West, Town of Superior, Douglas County.

Your application is complete, and the Department has determined that this activity complies with the conditions of the Corps' permit or the State's permit for non-federal wetlands. With the modifications sent this past week. One of the conditions of these permits is that you shall allow Department personnel reasonable entry and access to the site to inspect the discharge for compliance with certification and applicable laws. The areas should be seeded with native plant species.

You are responsible for obtaining any permit or approval that may be required for your project by local zoning ordinances, before starting your project.

No further information is required of you before you begin your project. Please keep this letter as a confirmation of your contact with us.

Sincerely,

Steven LaValley  
Water Management Specialist

cc: Jason Berkner - Project Manager, U.S. Army Corps of Engineers  
Steve Rannenber - Douglas County Zoning Administrator  
David Bessingpass - ARCADIS 6602 Excelsior Rd, Baxter, MN 56425  
Chris Saari - DNR remediation Ashland  
John Robinson - Rhineland DNR





**USACE Permit**



DEPARTMENT OF THE ARMY  
ST. PAUL DISTRICT, CORPS OF ENGINEERS  
180 FIFTH STREET EAST, SUITE 700  
ST. PAUL MINNESOTA 55101-1678

RECEIVED AUG 13 2010

REPLY TO  
ATTENTION OF  
Operations  
Regulatory (2008-04938-JRB)

Beazer East, Inc.  
Attn: Jane Patarcity  
One Oxford Centre, Suite 3000  
Pittsburgh, PA 15219

Dear Ms. Patarcity:

Enclosed is the validated copy of the Department of the Army permit issued to Beazer East, Inc. Please be advised that the authorization hereby granted is contingent on the permittee's compliance with all conditions stated in the permit and its attachments.

This Federal permit does not obviate the need to obtain any other Federal, state or local authorizations required by law.

The decision regarding this action is based on information found in the administrative record which documents the District's decision-making process, the basis for the decision, and the final decision.

If you have any questions, contact Jason Berkner in our office at (715) 934-2172. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tamara E. Cameron".

Tamara E. Cameron  
Chief, Regulatory Branch

Enclosure

DEPARTMENT OF THE ARMY PERMIT

Permittee Beazer East, Inc  
Permit No. 2008-04938-JRB

St. Paul District  
Issuing Office U.S. Army Corps of Engineers

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

You are authorized to discharge fill material into 3.25 acres of wetlands abutting a tributary to Crawford Creek to implement corrective actions at the contaminated Koppers Inc. wood treatment facility under the Resource Conservation and Recovery Act (RCRA). The authorized work area is shown on the attached drawings labeled 08-04938-JRB, page 1 of 3 through 3 of 3.

Project Location:

The project site is in Sections 12 & 13, Township 48N, Range 14W, Douglas County, Wisconsin. The approximate UTM coordinates are 46.648421, -92.066468.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2014. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archaeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall provide 3.92 acres of compensatory wetland mitigation for the 3.35 acres of unavoidable wetland loss. To satisfy this condition, the permittee shall provide an executed affidavit of bank credit purchase for 1.91 acres of wetland credit from the Lake Superior Wetland Mitigation Bank, L.L.C. (LSWMB). The affidavit of purchase has been provided to the Corps. The Permittee shall provide the remaining balance of 1.34 acres by restoring off-site mitigation at a 1.5:1 ratio, for a total of 2.01 acres of site specific wetland mitigation. The wetland mitigation shall be completed as detailed in the compensation site plan dated June 15, 2010, and titled *LSWMB Koppers Specific Mitigation Site*.
  - a. The Koppers wetland mitigation site shall be protected in perpetuity by a conservation easement (CE) acceptable to the District Engineer that prohibits incompatible uses. The CE shall be reviewed and approved by the District Engineer prior to being recorded. The approved covenants shall be recorded no later than 30 days following initiation of the project, and a certified copy of the recorded CE shall be returned to this office.
2. Vegetated surface cover in wetlands shall consist of a layer of non-woven geotextile, 12 inches of clay general fill, and 3 inches of topsoil with vegetation. The material specifications for the clay general fill and topsoil shall match those provided on the attachment labeled 08-04938-JRB, page 3 of 3.
3. Upon completion of earthmoving activities in the wetlands, the permittee shall apply the Board of Water and Soil Resources (BWSR) W2N (34-371) native seed mix (mixture

Operations - Regulatory (2008-04938-JRB)

sheet enclosed), or a similar seed mixture with prior Corps approval, to the surface covers located on wetlands in accordance with the rates and seeding instructions specified on the seed tag.

- a. The permittee shall provide the Corps with a copy of the seed tag within 30 days following completion of earthmoving activities in the wetlands.
4. The permittee shall control invasive and/or non-native plant species should they become established within the project area at densities greater than adjacent, undisturbed areas. Control shall be coordinated with the Wisconsin Department of Natural Resources and consist of one or more of the following: replanting, mowing, burning, disking, mulching, biocontrol and/or herbicide treatments. This condition shall remain in effect for a period of five full growing seasons following completion of the project.
5. The permittee is responsible for insuring that whoever performs, supervises or oversees any portion of the physical work associated with the corrective action has a copy of, is familiar with, and complies with all the terms and conditions of this permit. A copy of this permit, and its attached drawings, shall be provided to the contractors and be conspicuously posted on-site and made available to any Corps or DNR representatives or monitors during inspections of the project site.
6. Prior to initiating any physical work on the project site, the permittee shall clearly mark the wetland areas that are to remain undisturbed so that the boundaries are highly visible to equipment operators. For example, you may use appropriate signage and orange construction fencing, silt fencing, or continuous strands of flagging to mark the boundaries.
7. The permittee shall prevent sediment laden water from entering wetlands/waters not otherwise authorized to be impacted by this permit. Appropriate erosion and siltation controls shall be used and maintained in effective operating condition during construction, and all exposed soil and other fills shall be permanently stabilized at the earliest practicable date. This should be done in accordance with state-approved published practices.
8. The permittee shall remove all silt fencing, as well as any other non-biodegradable erosion controls, once the project site has been sufficiently stabilized through re-vegetation to prevent erosion.
9. Refer to Standard Conditions attachment.

Further Information:

Operations - Regulatory (2008-04938-JRB)

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

Section 404 of the Clean Water Act (33 U.S.C. 1344).

Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

  
\_\_\_\_\_  
(PERMITTEE SIGNATURE)

Aug. 10, 2010  
(DATE)

Michael Slensky  
(PERMITTEE PRINTED OR TYPED NAME)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

  
\_\_\_\_\_

8/12/10  
(Date)

Operations - Regulatory (2008-04938-JRB)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEREE SIGNATURE)

\_\_\_\_\_  
(DATE)

\_\_\_\_\_  
(TRANSFEREE PRINTED OR TYPED NAME)

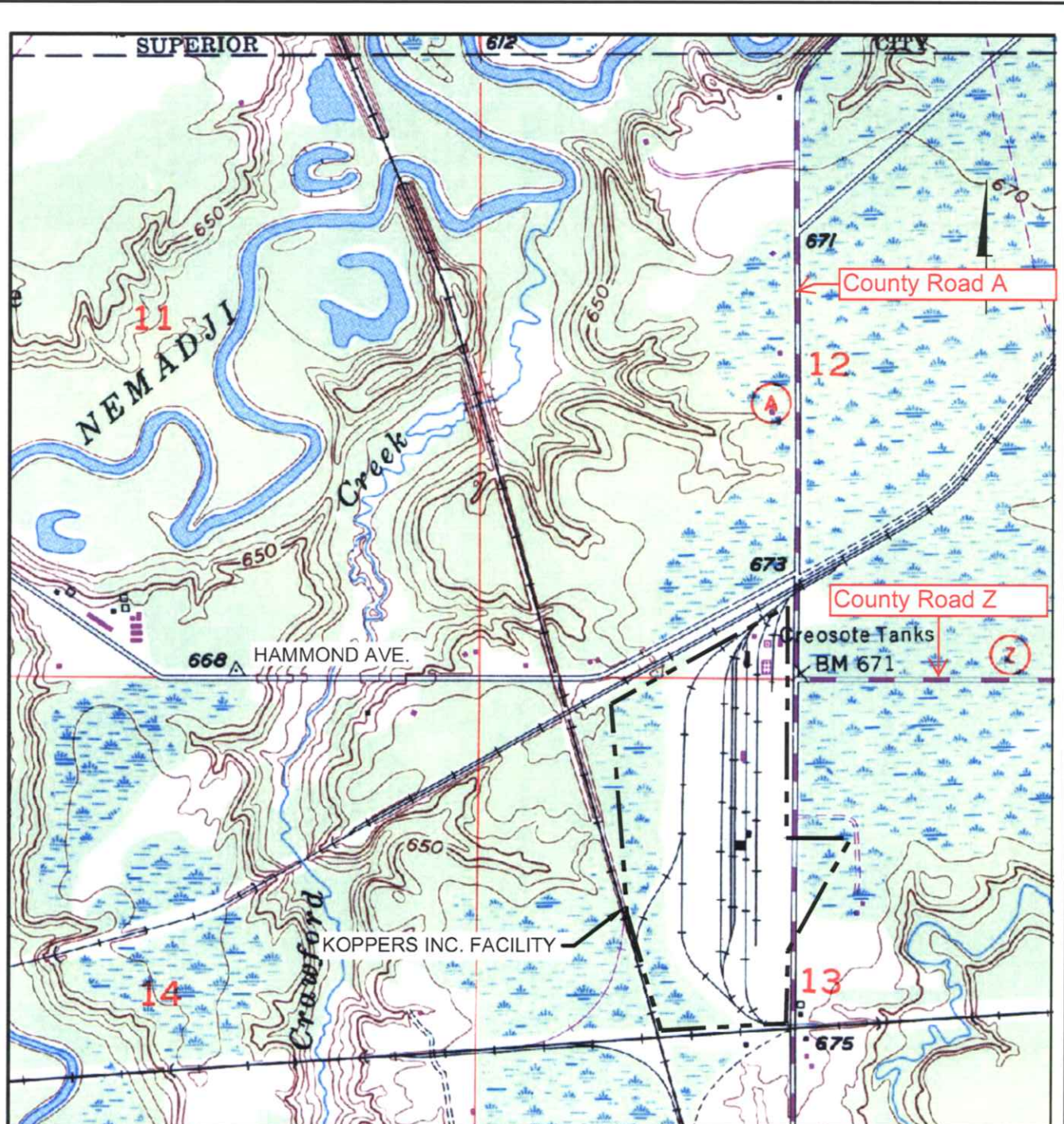


Operations - Regulatory (2008-04938-JRB)

In addition to general and special conditions, this permit is subject to the following standard conditions, as applicable:

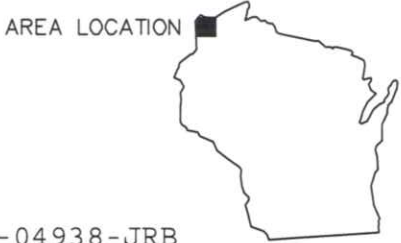
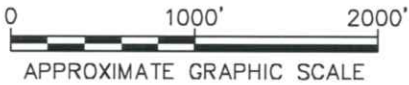
1. All work or discharges to a watercourse resulting from permitted construction activities, particularly hydraulic dredging, must meet applicable Federal, State, and local water quality and effluent standards on a continuing basis.
2. Measures must be adopted to prevent potential pollutants from entering the watercourse. Construction materials and debris, including fuels, oil, and other liquid substances, will not be stored in the construction area in a manner that would allow them to enter the watercourse as a result of spillage, natural runoff, or flooding.
3. If dredged or excavated material is placed on an upland disposal site (above the ordinary high-water mark), the site must be securely diked or contained by some other acceptable method that prevents the return of potentially polluting materials to the watercourse by surface runoff or by leaching. The containment area, whether bulkhead or upland disposal site, must be fully completed prior to the placement of any dredged material.
4. Upon completion of earthwork operations, all exposed slopes, fills, and disturbed areas must be given sufficient protection by appropriate means such as landscaping, or planting and maintaining vegetative cover, to prevent subsequent erosion.
5. All fill (including riprap), if authorized under this permit, must consist of suitable material free from toxic pollutants in other than trace quantities. In addition, rock or fill material used for activities dependent upon this permit and obtained by excavation must either be obtained from existing quarries or, if a new borrow site is opened up to obtain fill material, the State Historic Preservation Officer (SHPO) must be notified prior to the use of the new site. Evidence of this consultation with the SHPO will be forwarded to the St. Paul District Office.
6. If cultural, archaeological, or historical resources are unearthed during activities authorized by this permit, work must be stopped immediately and the State Historic Preservation Officer must be contacted for further instruction.
7. An investigation must be made to identify water intakes or other activities that may be affected by suspended solids and turbidity increases caused by work in the watercourse. Sufficient notice must be given to the owners of property where the activities would take place to allow them to prepare for any changes in water quality.
8. A contingency plan must be formulated that would be effective in the event of a spill. This requirement is particularly applicable in operations involving the handling of petroleum products. If a spill of any potential pollutant should occur, it is the responsibility of the permittee to remove such material, to minimize any contamination resulting from this spill, and to immediately notify the State Department of Natural Resources and the U.S. Coast Guard at telephone number (800) - 424-8802.

CITY: SYRACUSE, DIV/GROUP: 141, DB/LAF, LD: PIC, PK/D, BESSING/PAS, TM: LVR, ON/OFF/REF, PLOT: 9/26/2008 1:29 PM, ACADVER: 17.05 (LMS TECH), PAGESETUP: C-PA-PDF, PLOTSTYLETABLE: PLT/LULL.CTB, PLOTTED: 9/26/2008 1:29 PM, BY: FORAKER, LYDIA  
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 IMAGES: 39121\X01.TIF  
 PROJECT NAME: ----  
 XREFS:



BASE MAP SOURCE: USGS 7.5 MIN TOPO QUAD., SUPERIOR, WIS-MINN., 1954 (PHOTO REVISED 1993)

**LEGEND:**  
 - - - - - APPROXIMATE PROPERTY BOUNDARY



08-04938-JRB  
 Page 1 of 3

WISCONSIN

BEAZER EAST, INC.  
 PITTSBURGH, PENNSYLVANIA  
**KOPPERS INC. FACILITY**  
 SUPERIOR, WISCONSIN

**SITE LOCATION MAP**



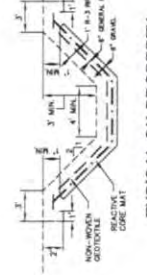
FIGURE  
**1**



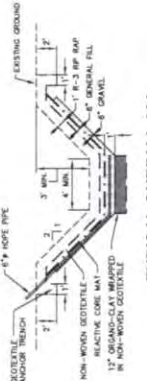
**TYPICAL VEGETATED SURFACE COVER**  
NOT TO SCALE



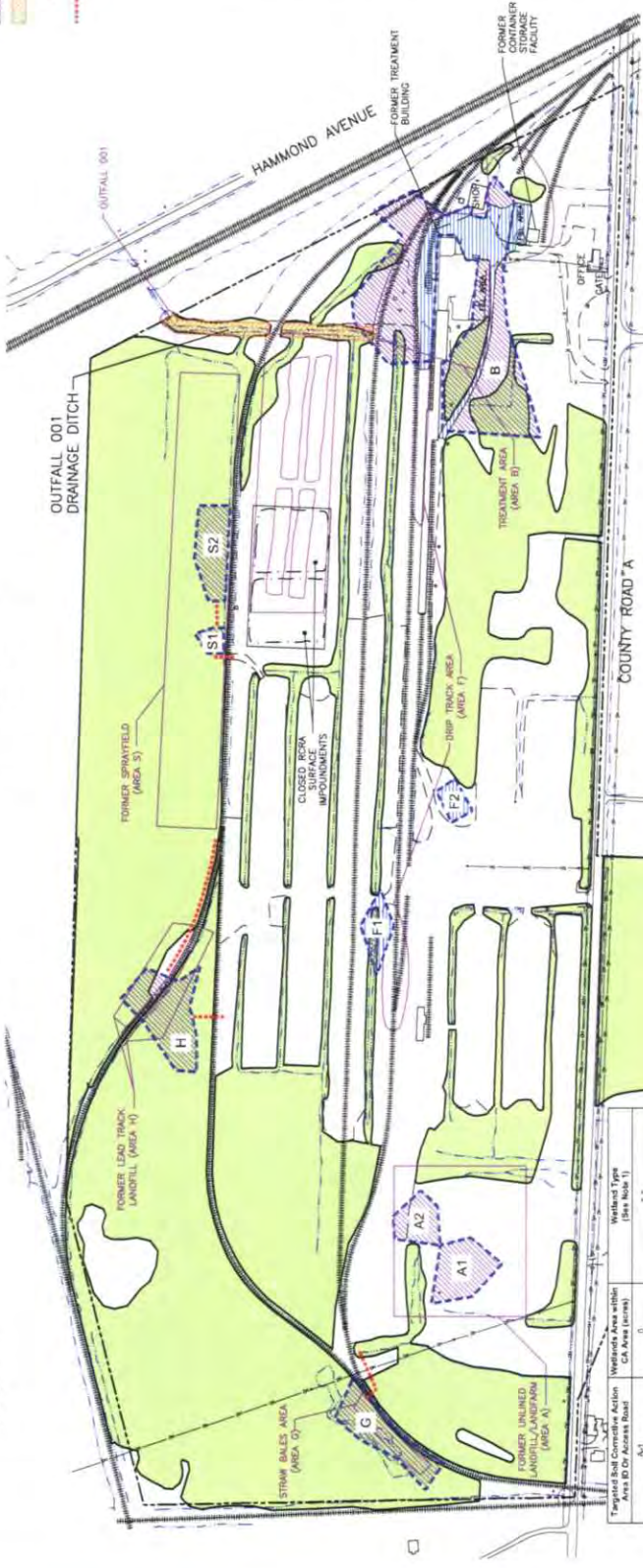
**TYPICAL ROAD BASE SURFACE COVER**  
NOT TO SCALE



**TYPICAL ON-PROPERTY DRAINAGE DITCH ENGINEERED LINER SYSTEM CROSS-SECTION**  
NOT TO SCALE



**TYPICAL OUTFALL 001 DRAINAGE DITCH SUMP CROSS-SECTION**  
NOT TO SCALE



Tagged Soil Corrective Action Area ID Or Access Road	Wetlands Area within CA Area (acres)	Wetland Type (See Note 1)
A-1	0	---
A-2	0	---
B	0.79	Type 4 - Palustrine Emergent Wetland
F-1	0.06	Type 7 - Palustrine Forested Wetland
F-2	0	---
G	0.98	Type 4 - Palustrine Emergent Wetland
H	0.01	Type 7 - Palustrine Forested Wetland
S-1	0.10	Type 4 - Palustrine Emergent Wetland
S-2	0.40	Type 4 - Palustrine Emergent Wetland
Outfall 001 Drainage Ditch	0.40	Type 4 - Palustrine Emergent Wetland
Access road to Area D	0.04	Type 4 - Palustrine Emergent Wetland
Access road to Area H	0.10	Type 4 - Palustrine Emergent Wetland
Access road to Area S1 and S2	0.02	Type 7 - Palustrine Forested Wetland
<b>Total</b>	<b>1.32</b>	<b>---</b>

1. WETLAND TYPE PER CIRCULAR 30

- NOTES:**
1. BASE MAP AND TOPOGRAPHY OBTAINED FROM PHOTOGRAMMETRY PERFORMED BY LOOKWOOD COMPANY OF ROCHESTER, NY (12/28/01).
  2. ALL LOCATIONS ARE APPROXIMATE.
  3. SMWU LIMITS DETERMINED DURING THE RCRA FACILITY ASSESSMENT/INVESTIGATION.
  4. THE EXTENT OF ON-PROPERTY SOILS ENCUMBERED SOIL SAMPLES DETERMINED TO REQUIRE CORRECTIVE ACTION BASED ON THE HEALTH RISK ASSESSMENT (HRA), THE ASSOCIATED ADDENDA, IN GENERAL, THE CORRECTIVE ACTION BOUNDARIES WERE FORMED SURROUND SAMPLES REQUIRING CORRECTIVE ACTION BASED ON THE HRA. WHERE NECESSARY, THE BOUNDARIES WERE ALSO USED TO ESTABLISH BOUNDARIES.
  5. APPROXIMATE WETLAND LOCATIONS BASED ON WETLAND DELINEATION PERFORMED BY ENVIRONMENTAL TROUBLESHOOTERS, INC. OF PITTSBURGH, PENNSYLVANIA. WETLAND SURVEY BY L.W. SURVEY ENGINEERING & DESIGN COMPANY OF DULUTH, MN, WETLAND DELINEATION PERFORMED BY ENVIRONMENTAL TROUBLESHOOTERS, INC. OF DULUTH, MN IN 2004, AND WETLAND DELINEATION PERFORMED BY ARCADIS BEL IN 2007.
  6. LOCATIONS OF ACCESS ROADS MAY BE MODIFIED IN THE FIELD.



BEAZER EAST, INC.  
PITTSBURGH, PENNSYLVANIA  
KOPPERS INC. FACILITY  
SUPERIOR, WISCONSIN

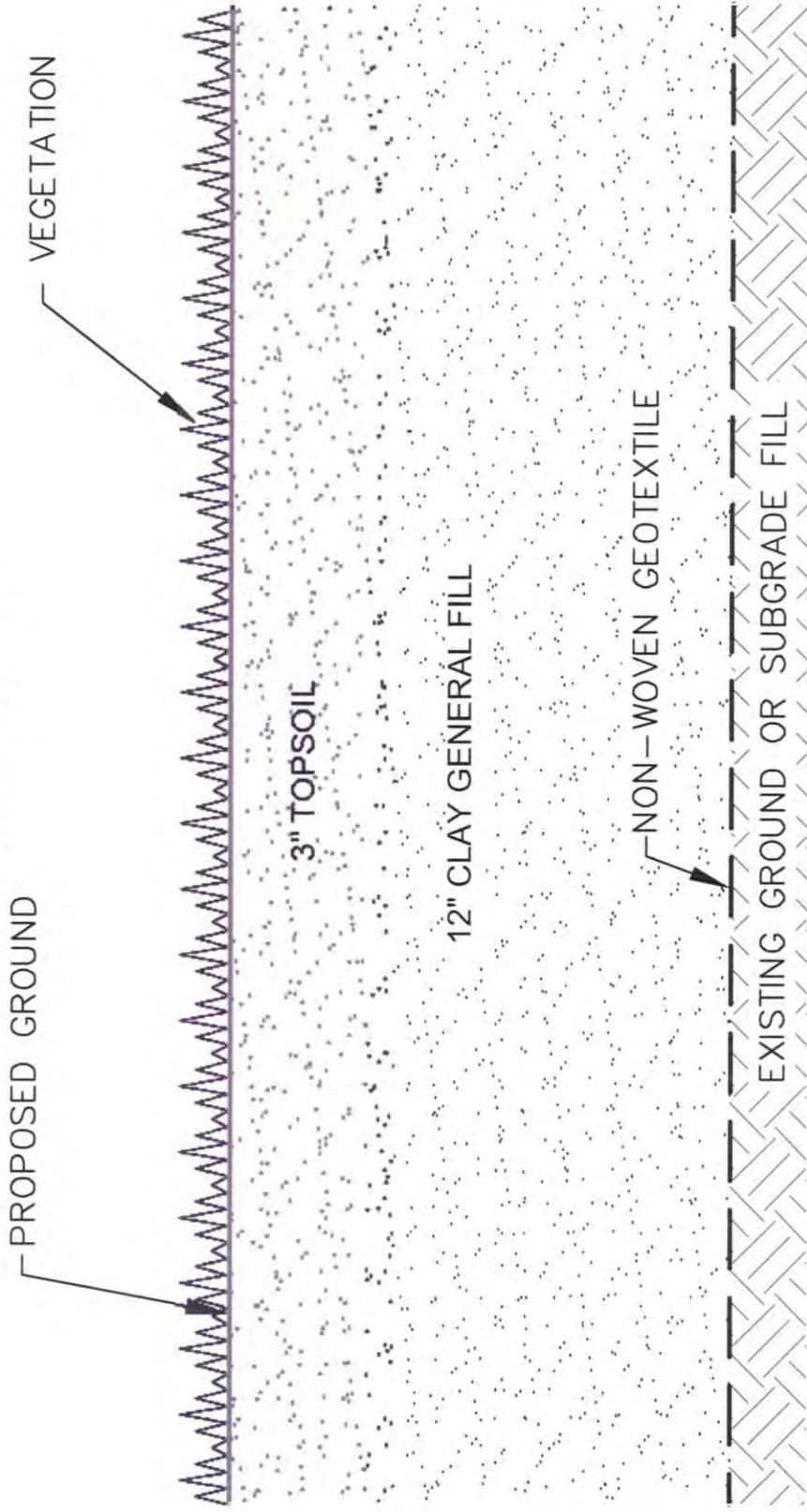
**SITE PLAN**

FIGURE  
**2**

08-04938-JRB  
Page 2 of 3



**FIGURE A**



**TYPICAL VEGETATED SURFACE COVER OVER EXISTING**

**WETLAND AREAS**

NOT TO SCALE

**Material Specifications:**

Clay General Fill shall be clay borrow material from a virgin source approved by Beazer and will be free of clumps, rock or gravel larger than 6 inches in any dimension, debris, waste, frozen materials, organic matter or any other deleterious materials. Clay General Fill shall have a Unified Soil Classification System (USCS) group symbol of CL or ML-CL.

Topsoil shall be from a virgin source approved by Beazer, and sandy/silty loam material free of large rocks, wood and other deleterious debris and adapted to sustain plant life.

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by wt)	Seeds/ sq ft
fringed brome	<i>Bromus ciliatus</i>	2.24	2.00	16.04%	8.10
bluejoint	<i>Calamagrostis canadensis</i>	0.11	0.10	0.78%	10.00
Virginia wild rye	<i>Elymus virginicus</i>	1.68	1.50	11.99%	2.31
tall manna grass	<i>Glyceria grandis</i>	0.28	0.25	1.96%	6.30
fowl bluegrass	<i>Poa palustris</i>	0.73	0.65	5.19%	31.00
	<b>Total Grasses</b>	<b>5.04</b>	<b>4.50</b>	<b>35.96%</b>	<b>57.71</b>
tussock sedge	<i>Carex stricta</i>	0.04	0.04	0.35%	0.85
pointed broom sedge	<i>Carex scoparia</i>	0.06	0.05	0.39%	1.50
dark green bulrush	<i>Scirpus atrovirens</i>	0.22	0.20	1.56%	33.00
woolgrass	<i>Scirpus cyperinus</i>	0.07	0.06	0.51%	40.00
	<b>Total Sedges and Rushes</b>	<b>0.39</b>	<b>0.35</b>	<b>2.81%</b>	<b>75.35</b>
Canada anemone	<i>Anemone canadensis</i>	0.11	0.10	0.82%	0.30
marsh milkweed	<i>Asclepias incarnata</i>	0.27	0.24	1.95%	0.43
flat-topped aster	<i>Doellingeria umbellata</i>	0.11	0.10	0.81%	2.50
common boneset	<i>Eupatorium perfoliatum</i>	0.10	0.09	0.68%	5.00
grass-leaved goldenrod	<i>Euthamia graminifolia</i>	0.04	0.04	0.31%	5.00
spotted Joe pye weed	<i>Eutrochium maculatum</i>	0.16	0.14	1.15%	5.00
blue monkey flower	<i>Mimulus ringens</i>	0.03	0.03	0.24%	25.00
giant goldenrod	<i>Solidago gigantea</i>	0.03	0.03	0.20%	2.30
eastern panicled aster	<i>Symphotrichum lanceolatum</i>	0.03	0.03	0.28%	2.00
	<b>Total Forbs</b>	<b>0.09</b>	<b>0.80</b>	<b>6.44%</b>	<b>47.53</b>
Oats	<i>Avena sativa</i>	7.68	6.85	54.79%	3.05
	<b>Total Cover Crop</b>	<b>7.68</b>	<b>6.85</b>	<b>54.79%</b>	<b>3.05</b>
	<b>Totals:</b>	<b>14.01</b>	<b>12.50</b>	<b>100.00%</b>	<b>183.64</b>
<b>Purpose:</b>	Wet meadow / Sedge meadow reconstruction for wetland mitigation or ecological restoration.				
<b>Planting Area:</b>	Laurentian Mixed Forest Province. Mn/DOT Districts 1, 2(east) and 3A.				



**Documentation of Wetland  
Mitigation Activities**

Affidavit of Bank Credit Purchase

Off-Site Mitigation Wetland As-  
Built Report

Off-Site Mitigation Wetland Grant  
of Covenants

# Affidavit of Bank Credit Purchase

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## Applicant Information

Name: Beazer East, Inc.

Address: Attn: Jane Patarcity  
Suite 3000, One Oxford Centre  
Pittsburgh, PA 15219-1400

Phone: (412) 208-8843

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## Project Summary

Brief Description of Project Resource Conservation and Recovery Act (RCRA) corrective actions at the Koppers, Inc., Superior, Wisconsin facility.

Acres of Wetland Impact by Wetland Type 3.25 acres of palustrine emergent, forested and scrub/shrub wetlands

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## Location of Wetland Impacted

County Douglas

Basin (GMU) Lake Superior

Township/Range & 1/4-1/4 Section The Koppers, Inc. facility in Superior, Wisconsin that is more particularly described as:  
Township 48N; Range 14W; Section 12/13

Expected Replacement Ratio 1.91 acres at 1:1 ratio  
1.34 acres at 1.5:1 ratio

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1. I certify that I have purchased 1.91 acres of compensation credit from the Lake Superior Wetland Mitigation Bank, L.L.C.

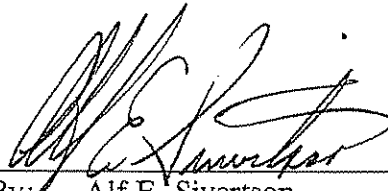
**BEAZER EAST, INC.**



By: Robert S. Markwell  
Its: Vice President

2. I certify that the Lake Superior Wetland Mitigation Bank, L.L.C. has sold 1.91 acres of approved compensation credit to the above named applicant and that such debit has been noted in the Bank's accounting system.

**LAKE SUPERIOR WETLAND  
MITIGATION BANK, L.L.C.**



By: Alf E. Sivertson  
Its: President





**AS BUILT REPORT 12-2010 (YEAR 0)  
LSWMB KOPPERS PROJECT SPECIFIC  
MITIGATION SITE**

Mr. Alf Sivertson, President  
Lake Superior Wetland Mitigation Bank, L.L.C.  
1465 Arcade Street  
St. Paul, Minnesota 55106-1723

ICECOR PROJECT #102006032

December 13<sup>th</sup>, 2010

CIVIL ENGINEERING  
ENVIRONMENTAL ENGINEERING  
INDUSTRIAL HYGIENE  
SAFETY  
HYDROGEOLOGY  
GEOLOGY

As Built Report 12-2010 (Year 0)  
Site Specific Mitigation for Koppers Inc. RCRA Work Project  
US Army Corps of Engineers Permit 2008-04938-JRB  
LSWMB Koppers Project Specific Mitigation Site  
2866 S. Poplar River Road, Town of Lakeside, Wisconsin

Prepared for:  
Mr. Alf Sivertson, President  
Lake Superior Wetland Mitigation Bank (LSWMB), L.L.C.  
1465 Arcade Street  
St. Paul, MN 55106-1723

Prepared by:  
ICECOR  
PO Box 1105  
Superior, WI 54880

Michael L Kohn

MICHAEL L. KOHN, P.E.  
Engineer/Hydrogeologist

12/13/10

Date

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1.3 Wetland Credit Summary .....	2
1.4 Remaining Additional Construction Activities .....	3

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## TABLES

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Table 1      Credit Value Summary

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## FIGURES

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Sheet 1      Site Location Map  
Sheet 2      As Built Map 2010  
Sheet 3      Details Map #1

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## APPENDICES

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Appendix A    CD: PDF of Report and Tables

## 1.0 AS BUILT REPORT

### 1.1 Summary of Construction Activities

In late September of 2009, June of 2010, and August of 2010 the project area was herbicided with RoundUp to kill off the hayfield grasses and prepare the area for the growth of hydrophytic vegetation by reducing competition from the existing upland plant seedbank. Earthwork at the site started on November 1<sup>st</sup>, 2010 with the opening of borrow areas and the construction of berms as per the attached Sheets 2 and 3. The attached Table 3 presents a summary of the berm design and as built elevations for each berm. Construction started on the south side of the site and then moved to the north towards lower elevation areas. Berm locations were staked from uploaded GPS files, and then modified for actual site surface elevations using a laser level. Elevations were measured relative to a benchmark installed by the surveyor, in the southern wooded island of the farm field, during the original site planning activities. Topsoil was scraped from the footprint of the proposed berms and from borrow areas. Clean clay soils from the borrow areas were excavated, trucked/bailed over to the berm locations, and compacted with a sheeps-foot in six (6) inch lifts. The ends of each berm were completed at grade with the adjacent surfaces, and the rest of the berm was compacted to six (6) inches higher than the berm ends to direct retained runoff around the ends of each berm on native soils instead of over the top of the constructed berm (see Sheet 3). Salvaged topsoil was then spread over the disturbed surfaces of the completed berms, and over the borrow areas when they were also completed. Borrow areas were left 3-6 inches lower than the surrounding grade as "bowl" shaped low areas. Construction continued northward for the rest of the week and final site construction activities were completed on November 5<sup>th</sup>, 2010. Haybale check dams were installed downgradient of construction activities at three (3) locations to keep construction sediment from migrating off-site or into on-site existing wetland areas (see Sheet 3).

Over the final three (3) weeks of November, a crew of youth farmers spread upland seed and oats on the completed berms and then covered the berms with double sided erosion control blankets that were stapled to the soil surface. The blankets were installed instead of disk anchored mulch to help to keep the seed in place and reduce erosion from precipitation events until the upland seed mix (BWSR U10) could germinate and grow in the Spring of 2010.

On November 10<sup>th</sup> and 17<sup>th</sup>, 2010 the site surface elevations were measured with a survey grade GPS base/rover system accurate to the sub-inch. The goal was to collect final site construction elevations and location/footprint of the constructed berms. Additional measurements were collected in a second event to facilitate the calculation of compacted berm volumes. Over 1000 elevation points were measured during the two events, and some of the measurements have been provided on Sheet 2.

### 1.2 Summary of Changes to Original Construction Plan

As per the attached Sheet 2, grading of the site followed the general plan for construction of low berms interrupting the drainage system that had been installed in the former farm field. Design berm positions and lengths were altered as necessary based on laser elevations measured during construction, but the height of each berm was constructed as designed.

Design Berm #12 wasn't installed during the construction activities. It had been planned to span across the 763 foot contour line and detain runoff on the south side of the planned berm to that height. Instead, planned Berm #14 was connected to the completed Berm #11 from the adjacent CN project site to the north which already intersects the 763 foot contour further north on the east side of the former drainage ditch. The area on the south side of Berm #11 had been borrowed previously for it's construction and had backed up shallow water across the majority of where Berm #12 had been planned to be constructed. The area west of the planned Berm #12 was borrowed to a lower elevation to obtain clay for constructing Berms #14 and #15, leaving planned saturation in that area at the ground surface and removing the necessity for the installation of Berm #12.

Berm #18 wasn't installed during the construction activities. The borrow area north of Berm #16 was extended south up to the toe of that berm to bring saturation nearer the surface, and Berm #16A was added to span the drainage ditch and retain runoff on it's south side. The borrow area south of Berm #16 was expanded to the west to bring saturation nearer the surface, and the new Berm #16A was combined with the planned Berm #18 to hold saturation nearer the surface upgradient of it's new location. The southern end of Berm #16A was extended south to intersect a higher surface elevation and route runoff around the northeastern end of the berm into the holding area of the downgradient Berm #15.

Agricultural oats weren't sown across the site between the berms as planned due to the lateness in the growing season. Freezing conditions and snow occurred within weeks of the completion of grading activities. This temporary crop won't be installed, and instead the wetland seedlings and seed mixes will be installed in the Spring of 2011.

### 1.3 Wetland Credit Summary

As per Sheet 2 the completed construction of the project specific mitigation site has been evaluated to determine a preliminary set of areas that are expected to result in wetland credits at the site. Elevations were measured along constructed berms and in borrow areas. These elevations were utilized to calculate the portions of the constructed berms that are expected to remain upland and those that are expected to develop into wetlands. Table 1 provides a summary of the calculations made for determining the credit amounts. Table 3 presents a more detailed summary of the specific calculations for determining the total wetland credit areas. At this time, it is expected that the site will yield approximately 2.04 credits which will satisfy the required 2.03 acres of shrub carr swamp and hardwood swamp credits needed for the Koppers Project (COE Permit #2008-04938-JRB).

**TABLE 1: Credit Value Summary**

<b>Wetland Type</b>	<b>Mitigation Type</b>	<b>Design Credit</b>	<b>As Built Credit</b>
Shrub Carr Swamp	Restoration	0.80 ac	0.80 ac
Hardwood Swamp	Creation	1.20 ac	1.18 ac
Berms	Upland Buffer	0.03 ac	0.05 ac
Wet Meadow	Enhance/RCG Cntrl	0.01 ac	0.01 ac
	<b>TOTALS</b>	<b>2.04</b>	<b>2.04</b>

1.4 Remaining Additional Construction Activities

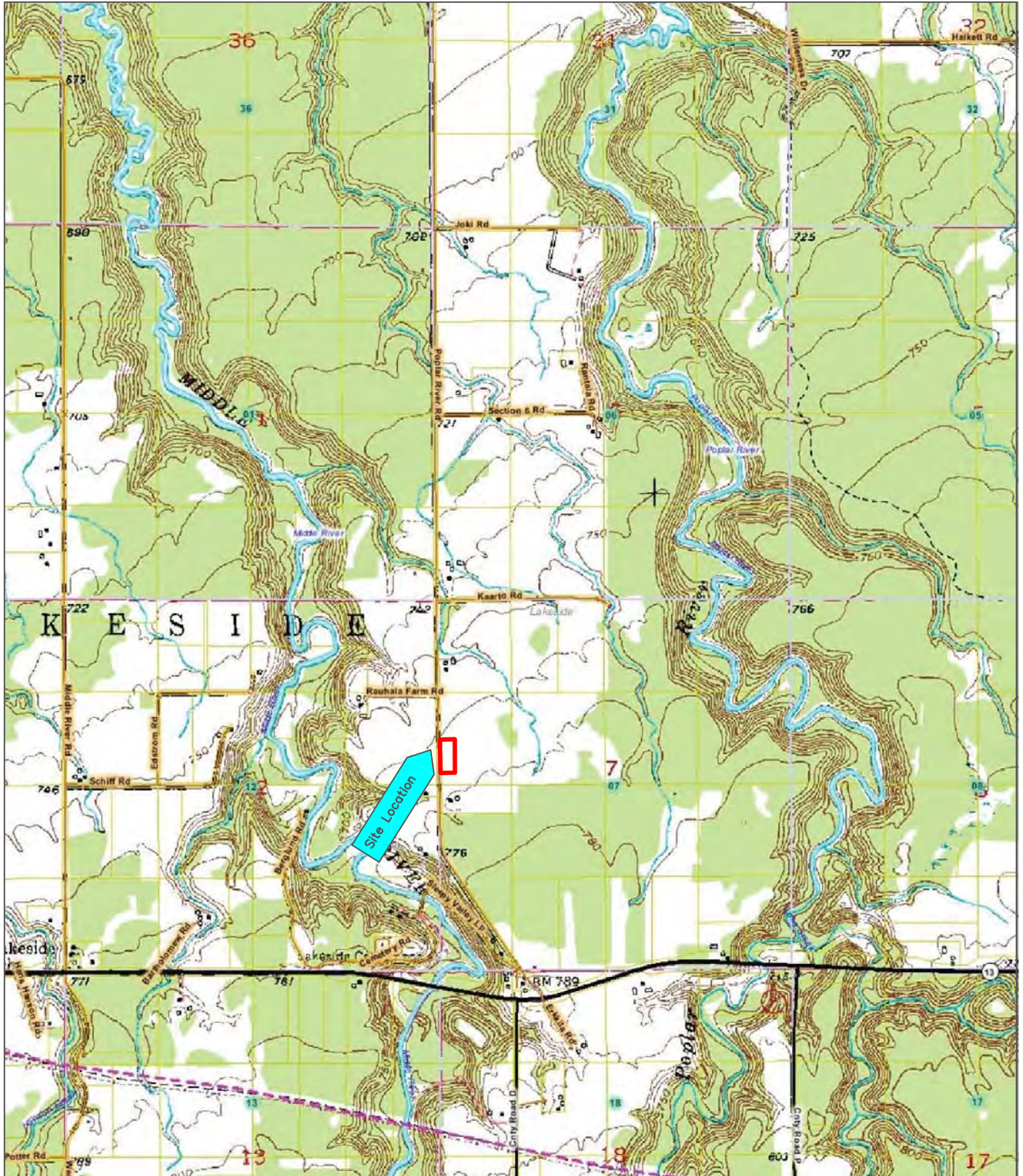
The site will be inspected in the Spring of 2011 following melting of the snow and the resulting detention of runoff at the site. If necessary, minor grading additions to the ends of constructed berms will be made with smaller equipment to improve the ponding of runoff at the site.

The berms have been seeded with the BWSR U10 upland seed mix and agricultural oats (20 lbs/acre). They were covered with double sided erosion control fabric instead of disk anchored mulch to hold the seed better into the following Spring. Growth on the berms will be evaluated in the Spring and early Summer of 2011 and additional upland seed mix will be sown atop the fabric as necessary. The fabric netting will left in place to naturally degrade over the next 2 growing seasons.

In the Spring of 2011, the site will be seeded and mulched with the BWSR W2 wetland seed mix and agricultural oats as per the Compensation Site Plan (CSP) developed for the site where inundation isn't present. Weed free mulch will be installed and disk anchored atop the seeded areas. Shrub and tree seedlings will then be installed in the Spring of 2011 by the forester retained by the LSWMB to perform that work. The forester will determine the best placement for the shrub and tree seedlings as per the conditions of the site, roughly following the intended planting areas proposed in the CSP. The oats will help to establish a cover crop to prevent erosion and help keep weeds from becoming established while the planted wetland herbs and seedlings grow to provide a vegetative cover across the site. The site will be monitored frequently to determine if additional seeding/plantings are necessary and/or if spot spraying of herbicide is necessary to control non-wetland plants or invasive species. The CSP provides detailed plans for this process.

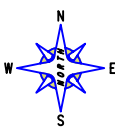
## **SHEETS**

Sheet 1	Site Location Map
Sheet 2	As Built Map 2010
Sheet 3	Details Map #1



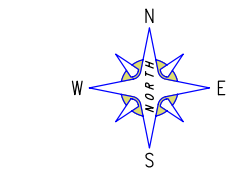
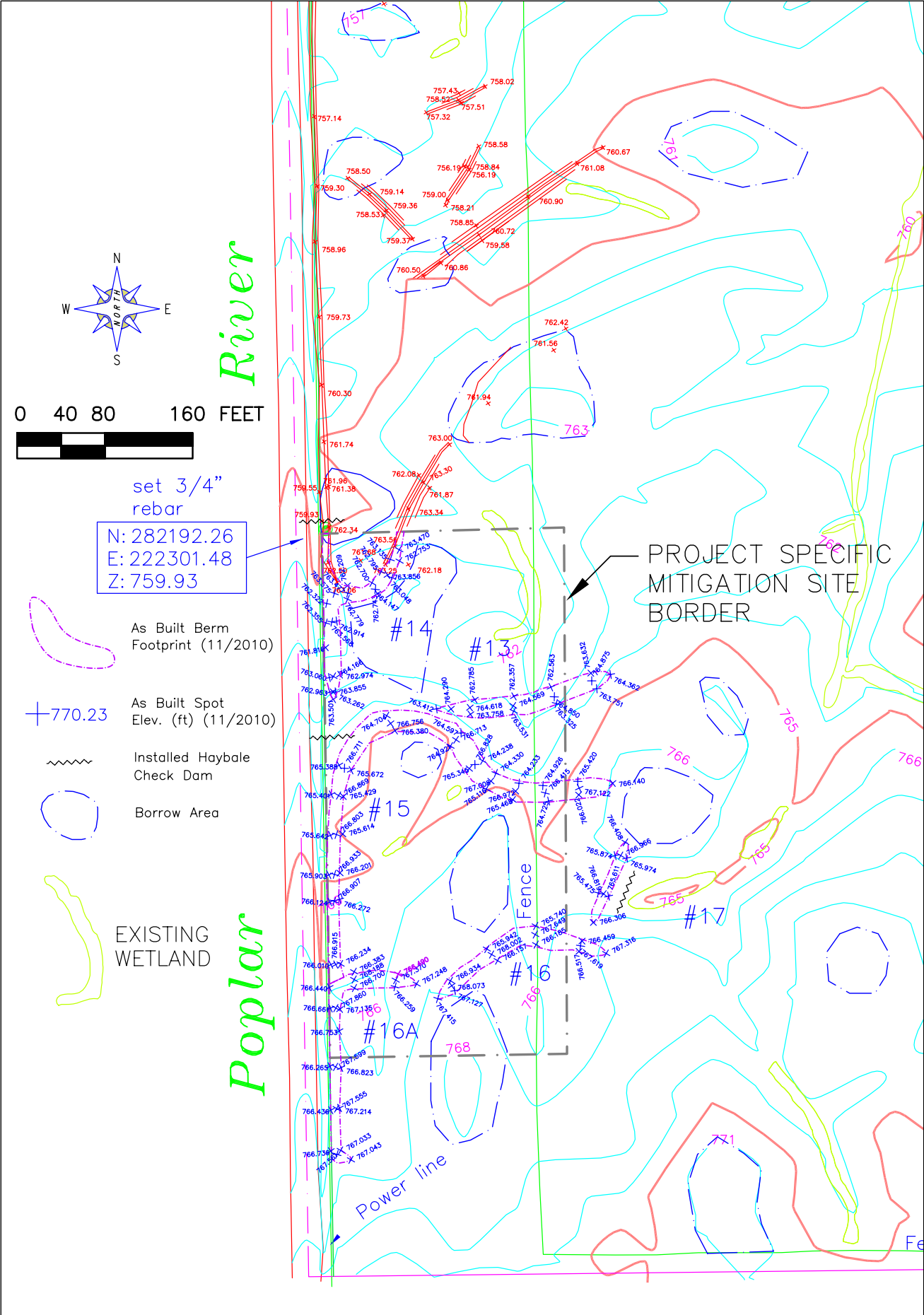
**ICECOR**  
**I C ENVIRONMENTAL CORPORATION**

Scale: 1" = 2000'  
 USGS Topographic Map



SHEET 1 OF 10	
Koppers Project Specific Mitigation Site Town of Lakeside, Wisconsin	
SITE LOCATION MAP	
CREATED BY: MLK	DRAWN BY: MLK
DATE: 5/30/10	PROJECT # 102006032





0 40 80 160 FEET

set 3/4" rebar  
 N: 282192.26  
 E: 222301.48  
 Z: 759.93

- As Built Berm Footprint (11/2010)
- +770.23 As Built Spot Elev. (ft) (11/2010)
- Installed Haybale Check Dam
- Borrow Area
- EXISTING WETLAND

PROJECT SPECIFIC MITIGATION SITE BORDER

2 of 3  
 SHEET NO.

KOPPERS PROJECT SPECIFIC MITIGATION SITE  
 TOWN OF LAKESIDE, WISCONSIN  
 ICECOR PROJECT #102006032  
 AS BUILT MAP 2010

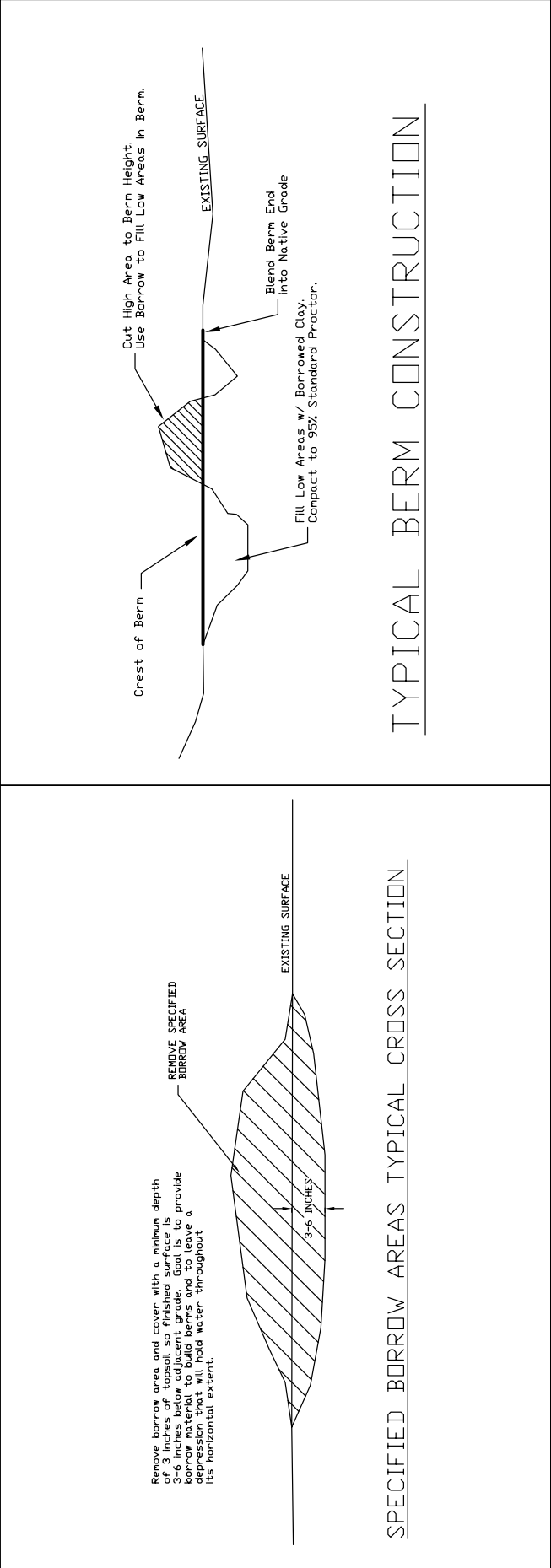
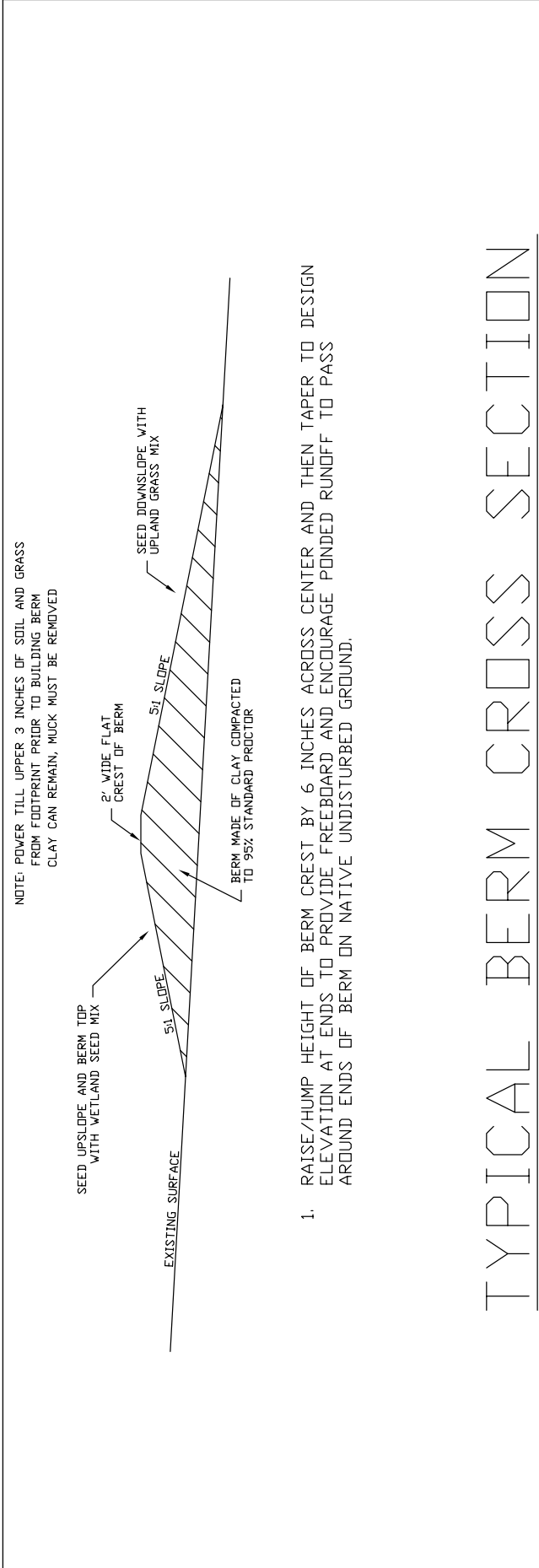
DATE	REVISIONS	DESCRIPTION
12/12/10	ORIGINAL	SUBMISSION

I hereby certify that this plan, specification or report was prepared by me or under my supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of WISCONSIN.

Printed name: \_\_\_\_\_  
 Date: \_\_\_\_\_ Lic. No. \_\_\_\_\_

**ICECOR**  
 P.O. BOX 1105  
 SUPERIOR, WISCONSIN 54880  
 (715) 395-0965

DATE	REVISIONS DESCRIPTION
5/31/18	ORIGINAL SUBMISSION
	CONSTRUCTION PLAN SET



## **APPENDIX A**

**CD: PDF of Report and Tables**

TABLE 2: As Built Berm Elevations									
LSWMB Koppers Project Specific Mitigation Site									
12/11/2010									
Berm ID	Design End Elev. (ft)	As Built End Elev. (ft)	As Built Min. Crest Elev. (ft)	As Built Length (ft)	As Built Max. Water Depth (ft)	Design Berm Volume (yd <sup>3</sup> )	As Built Berm Volume (yd <sup>3</sup> )		
#12	763.00	Not Installed, Not Needed							
#13	764.00	763.80	764.50	163.87	1.35	87.89	87.89		
#14	Varies	763.47	763.60	188.80	1.10	106.25	104.39		
#15	766.00	766.14	766.60	465.73	1.80	352.33	353.42		
#16	767.00	767.32	768.00	175.44	2.00	52.91	66.86		
#16A	Added	767.00	767.50	239.02	1.60		130.02		
#17	766.00	766.31	766.80	78.87	1.00	8.20	11.87		
				<b>Sum</b>	<b>Sum</b>	<b>607.58</b>	<b>754.45</b>		

<b>Table 3: Wetland Credit Calculations</b>									
<b>LSWMB KOPPERS PROJECT SPECIFIC MITIGATION SITE</b>									
<b>MLK 12/4/10</b>									
<b>Wetland Created/Restored</b>	<b>Area (ft<sup>2</sup>)</b>	<b>Area (acres)</b>	<b>Total Site Credit Calculation</b>		<b>As Built Credit Calcs</b>				
			<b>Area (ft<sup>2</sup>)</b>	<b>Area (acres)</b>	<b>Area (ft<sup>2</sup>)</b>	<b>Area (acres)</b>	<b>Area (ft<sup>2</sup>)</b>	<b>Area (acres)</b>	
Drawn Boundary of Project Area	100,605.13	2.31			104,441.95	2.40			
Upland portion of berms within credit area	11,646.56	0.27			15,742.67	0.36			
Existing wetlands w/in credit-construction area	1,808.59	0.04			1,808.59	0.04			
	subtotal	2.00			87,149.98	2.00			
	acres	2.00							
<b>Upland Buffers</b>									
Upland Berms within Credit Area	11,646.56				15,742.67				
	Credit @ 0.125:1 Ratio	0.03			1,455.82	0.03			0.05
<b>Reed Canary Grass Control in Existing Wetlands</b>									
Reed Canary Grass within Credit Area	150.80	0.00							
	Credit @ 0.25:1	0.00			37.70	0.00			0.00
					88,643.50	<b>2.03</b>			<b>2.04</b>
	TOTAL				2.03				
	acres								
<b>Wetland Credit Breakdown by Type</b>	<b>Area (ft<sup>2</sup>)</b>	<b>Area (acres)</b>							
Shrub Carr Restoration	34,997.54	0.80							
Hardwood Swamp Restoration	52,427.12	1.20							
Upland Buffer	1,455.82	0.03							
Wet Sedge Meadow Enhancement (RCG)	37.70	0.00							
Total	88,918.18	2.04							



**Douglas County, WI**



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Display Details for Document #839908

839908

<b>Instrument Code:</b> 11 1	<b>Date Recorded:</b> 12/14/2010	<b>Fees:</b> \$30.00
<b>Instrument Date:</b> 12/10/2010	<b>Time Recorded:</b> 10:00 AM	<b>Returned:</b> MAIL (REGULAR)
<b>Verified:</b> YES	<b>Adjusted:</b> NO	

Detail

**Returned To:** SIVERTSON & BARRETTE PA  
**Address 1:** THE BARRISTER BUILDING  
**Address 2:** 1465 ARCADE ST  
**City/St/Zip:** ST PAUL, MN 55106-7140  
**Grantor 1:** LAKE SUPERIOR WETLAND Grantor 2:  
 MITIGATION BANK LLC  
**Grantee 1:** ST PAUL DISTRICT OF THE Grantee 2:  
 US ARMY CORPS OF  
 ENGINEERS

Comments:

<b>Cartridge:</b>	<b>Volume:</b>	<b>Page:</b>
<b>Transfer Fee:</b>	<b>Mortgage:</b>	<b>Exempt</b>
		<b>Code:</b>
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839908

Document Number

*Creation & Grant of Covenants*

Document Title

DOCUMENT # 839908

Certified, Filed and or Recorded on  
Dec. 14, 2010 AT 10:00AM

GAYLE I. WANNER

DOUGLAS COUNTY RECORDER

SUPERIOR, WI 54880-2769

Fee Amount: \$30.00

Total Pages 7

Recording Area

Name and Return Address

*Silverton & Benette*  
*306*

Parcel Identification Number (PIN)

839908

## CREATION AND GRANT OF COVENANTS

This GRANT OF COVENANTS is made by Lake Superior Wetland Mitigation Bank, L.L.C., (hereinafter referred to collectively as the "Covenantor") to the St. Paul District of the United States Army Corps of Engineers (hereinafter referred to as "Government").

WITNESS THAT:

WHEREAS, the Covenantor is the owner in fee of certain real property located in the County of Douglas, in the State of Wisconsin, described more particularly as follows, and referred to herein as the "Conservancy Area":

Those parts of the Southwest Quarter of the Northwest Quarter and the Northwest Quarter of the Northwest Quarter of Section 7, Township 48 North, Range 11 West, Douglas County, Wisconsin, described as follows:

Commencing at the southwest corner of the Northwest Quarter of said Section 7; thence North  $53^{\circ} 49' 31''$  East (assuming the South line of said Northwest Quarter has a bearing of North  $89^{\circ} 20' 01''$  East), a distance of 343.60 feet to the point of beginning of the easement to be described; thence North  $0^{\circ} 19' 47''$  West, a distance of 479.34 feet; thence South  $88^{\circ} 55' 56''$  West, a distance of 69.98 feet; thence North  $1^{\circ} 06' 05''$  West, a distance of 100.00 feet; thence North  $1^{\circ} 11' 20''$  West, a distance of 100.00 feet; thence North  $0^{\circ} 28' 12''$  West, a distance of 100.01 feet; thence North  $1^{\circ} 45' 01''$  West, a distance of 100.01 feet; thence North  $0^{\circ} 40' 19''$  West, a distance of 100.00 feet; thence North  $0^{\circ} 26' 05''$  West, a distance of 100.01 feet; thence North  $0^{\circ} 05' 56''$  East, a distance of 100.02 feet; thence North  $1^{\circ} 12' 26''$  West, a distance of 100.00 feet; thence North  $1^{\circ} 08' 42''$  East, a distance of 62.10 feet; thence North  $4^{\circ} 11' 02''$  East, a distance of 74.66 feet; thence South  $83^{\circ} 39' 08''$  West, a distance of 160.57 feet; thence South  $75^{\circ} 58' 29''$  West, a distance of 14.14 feet; thence South  $60^{\circ} 05' 19''$  West, a distance of 17.41 feet; thence South  $75^{\circ} 36' 39''$  West, a distance of 18 feet, more or less, to the easterly right of way line of POPLAR RIVER ROAD; thence southerly along said easterly right of way line, a distance of 1384 feet, more or less, to the intersection with a line bearing South  $89^{\circ} 17' 58''$  West from the point of beginning; thence North  $89^{\circ} 17' 58''$  East, a distance of 256 feet, more or less, to the point of beginning.

WHEREAS, the Covenantor desires and intends that the natural elements and the ecological and aesthetic values of the Conservancy Area be maintained and improved in accordance with the terms and conditions of these Covenants; and

WHEREAS, the Covenantor and Government both desire, intend and have the common purpose of conserving and preserving in perpetuity the Conservancy Area in a relatively natural condition by placing restrictions on the use of the Conservancy Area and by assigning from the



Covenantor to the Government, by the establishment of these Covenants, affirmative rights to ensure the preservation of the natural elements and values of the Conservancy Area; and

WHEREAS, within the Conservancy Area the Covenantor will develop the compensatory wetland mitigation required under Department of the Army permit numbers 2008-04938-JRB (Beazer East, Inc.) and 2010-002268-JRB (Canadian National Railway); and

WHEREAS, the permittees under Department of the Army permit numbers 2008-04938-JRB and 2010-002268-JRB have provided valuable consideration to the Covenantor for the making of these Covenants as part of this mitigation; and

WHEREAS, these Covenants satisfy the environmental compensatory mitigation required of the permittees under Department of the Army permit numbers 2008-04938-JRB and 2010-002268-JRB.

NOW THEREFORE, the Covenantor, for valuable consideration received, does hereby establish, give and assign to the Government an assignable right to enforce the following restrictions against the Covenantor, its successors and assigns if any; any third party holding, or professing to hold, any legal or equitable title to the Conservancy Area; or any trespasser or interloper committing any act on or near the premises inconsistent with these covenants:

- a. The right of the Government to enforce by proceedings at law or in equity the Covenants hereinafter set forth. The right shall include but not be limited to, the right to bring an action in any court of competent jurisdiction to enforce the terms of these Covenants, and to require the restoration of this property to its natural condition or to enjoin non-compliance by appropriate injunctive relief. The Government does not waive or forfeit the right to take action as may be necessary to ensure compliance with terms of these Covenants by any prior failure to act. Nothing herein shall be construed to entitle the Government to institute any enforcement action against the Covenantor for any changes to the Conservancy Area due to causes beyond the Covenantor's control and without the Covenantor's fault or negligence (such as changes caused by fire, flood, storm, civil or military authorities undertaking emergency action or unauthorized wrongful acts of third parties).

- b. The right of the Government, its contractors, agents and invitees, to enter the Conservancy Area, in a reasonable manner and at reasonable times, for the purpose of inspecting the Conservancy Area to determine compliance with these Covenants.

AND IN FURTHERANCE of the foregoing affirmative rights, the Covenantor makes the following Covenants on behalf of itself and its heirs, successors and assigns, which Covenants shall run with and bind the Conservancy Area in perpetuity:

### COVENANTS

- a. **USES.** There shall be no commercial, industrial or residential activity undertaken or allowed within the Conservancy Area.
- b. **BUILDINGS AND STRUCTURES.** There shall be no buildings, dwellings, barns, roads, advertising signs, billboards or other structures built or placed in the Conservancy Area.
- c. **TOPOGRAPHY.** There shall be no dredging, filling, excavating, mining, drilling or removal of any topsoil, sand, gravel, rock, minerals or other materials. There shall be no plowing or any other activity that would alter the topography of the Conservancy Area.
- d. **DUMPING/DISPOSAL.** There shall be no dumping of trash, ashes, garbage or other material that is unsightly, offensive or incompatible with the natural character of the Conservancy Area.
- e. **WATER.** The hydrology of the Conservancy Area will not be altered in any way or by any means including pumping, draining, diking, impounding or diverting surface or ground water into or out of the Conservancy Area.
- f. **AGRICULTURAL USES.** No plowing, tilling, cultivating, planting, timbering, or other agricultural activities may take place within the Conservancy Area.
- g. The Covenantor is responsible for compliance with all federal, state and local laws governing the safety and maintenance of the property, including the control of noxious weeds within the Conservancy Area.
- h. There shall be no operation of any motorized watercraft, vehicle, or equipment within the Conservancy Area.
- i. **VEGETATION.** Except in conjunction with the authorized uses set forth in paragraph g. above, there shall be no removal, cutting, mowing or alteration of any vegetation or change in the natural habitat in any manner.

NOTWITHSTANDING the foregoing restrictions, the Covenantor may operate a motorized vehicle or equipment within the Conservancy Area in conjunction with authorized management activities consistent with the compensation site plans of the existing mitigation sites and may construct and maintain any project features or mitigation features expressly required by the compensation site plans of the existing mitigation sites and any modifications thereto approved in writing by the Corps.

### **RESERVED RIGHTS**

These Covenants do not convey any ownership interest in the Conservancy Area to the Government nor require the Covenantor to allow the general public to enter upon or use the Conservancy Area.

The Covenantor and Covenantor's invitees may hunt and fish in the Conservancy Area so long as they comply with the terms and conditions of these Covenants and all federal, state and local game and fishery regulations.

Nothing herein shall be construed as limiting the right of the Covenantor to sell, give or otherwise convey the Conservancy Area, or any portion or portions thereof, provided that the conveyance is subject to the terms of these Covenants.

### **GENERAL PROVISIONS**

These Covenants shall run with and burden the Conservancy Area in perpetuity and shall bind the Covenantor and Covenantor's heirs, successors and assigns. These Covenants are fully valid and enforceable by any assignee of the Government, whether assigned in whole or in part. Said assignment may be by operation of law or by written notice of assignment to the Covenantor.

The Covenantor warrants that he/she/it owns the Conservancy Area in fee simple, and that Covenantor either owns all property interests in the Conservancy Area which may be impaired by the granting of these Covenants or that there are no outstanding mortgages, tax liens, encumbrances, or other interests in the Conservancy Area which have not been expressly subordinated to these Covenants by signing below. If it is determined at any time that there is any party who may have a property interest in the Conservancy Area that is superior to these Covenants, then the Covenantor shall immediately obtain and record a consent and subordination agreement signed by the other party. Acceptance of these Covenants does not release the Covenantor from the obligation to obtain and record a consent and subordination agreement signed by any party who may have a property interest in the Conservancy Area that is superior to these Covenants, even if such interest was of record at time of acceptance.

The Covenantor agrees to pay any and all real property taxes and assessments levied by competent authority on the Conservancy Area.

**839908**

The Covenantor agrees that the terms, conditions, covenants and restrictions set forth in this instrument will be inserted in any subsequent conveyance of any interest in said property. The Covenantor agrees to notify the Government of any such conveyance in writing and by certified mail within 15 days after the conveyance.

The Government may assign or transfer the right to enforce these Covenants to any Federal or state agency or private conservation organization for management and enforcement.

The terms "Covenantor" and "Government" as used herein shall be deemed to include, respectively, the Covenantor and its heirs, successors, personal representatives, executors and assigns, and the United States Government, acting by and through the U.S. Army Corps of Engineers, or other Federal agency authorized by law to enforce Section 404 of the Clean Water Act.

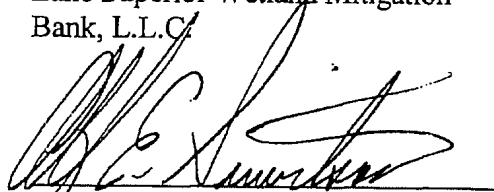
TO HAVE AND TO HOLD the above described together with all the appurtenances, rights and privileges belonging thereto, either in law or equity, for the proper use and benefit of the Government and its successors and assigns, forever.

839908

**EXECUTIONS AND ACKNOWLEDGMENTS**

IN WITNESS THEREOF, the Covenantor has hereto set its hand and seal this 10<sup>th</sup> day of December, 2010.

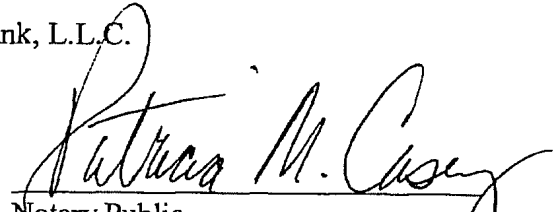
Lake Superior Wetland Mitigation  
Bank, L.L.C.



By: Alf E. Sivertson  
Its: President

STATE OF MINNESOTA     )  
  ) ss.  
COUNTY OF RAMSEY     )

This instrument was acknowledged before me this 10<sup>th</sup> day of December, 2010, by Alf E. Sivertson, President, Lake Superior Wetland Mitigation Bank, L.L.C.



Notary Public  
Commission Expires 1/31/2015

This instrument was drafted by:

Alf E. Sivertson  
1465 Arcade Street  
Saint Paul, MN 55106-1740

using a form developed by the  
St Paul District, U. S. Army  
Corps of Engineers



**WPDES Construction Site  
Storm Water Runoff Permit**



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Matthew J. Frank, Secretary  
John Gozdziwski, Regional  
Director

Superior Service Center  
1701 North 4<sup>th</sup> Street  
Superior, WI 54880-1572  
Telephone (715) 392-7988  
FAX (715) 392-7993  
TDD (715) 635-4001

July 27, 2010

RECEIVED JUL 30 2010

Jane Patarcy  
Beazer East Inc  
One Oxford Centre Ste 3000  
Pittsburgh PA 15219

SUBJECT: Coverage Under WPDES General Permit No. WI-S067831-3: Construction Site Storm Water Runoff

Permittee Name: Beazer East Inc  
Site Name: Koppers Inc Superior WI Facility  
FIN: 43368

Dear Permittee:

The Wisconsin Department of Natural Resources received your Construction Project Consolidated Permit Application or Notice of Intent, on July 13, 2010, for the Koppers Inc Superior WI Facility site and has evaluated the information provided regarding storm water discharges from your construction site. We have determined that your construction site activities will be regulated under ch. 283, Wis. Stats., ch. NR 216, Wis. Adm. Code, and in accordance with Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-S067831-3, Construction Site Storm Water Runoff. All erosion control and storm water management activities undertaken at the site must be done in accordance with the terms and conditions of the general permit.

The **Start Date** of permit coverage for this site is July 27, 2010. The maximum period of permit coverage for this site is limited to 3 years from the **Start Date**. Therefore, permit coverage automatically expires and terminates 3 years from the Start Date and storm water discharges are no longer authorized unless another Notice of Intent and application fee to retain coverage under this permit or a reissued version of this permit is submitted to the Department 14 working days prior to expiration.

A copy of the general permit along with extensive storm water information including technical standards, forms, guidance and other documents is accessible on the Department's storm water program Internet site. The Department's Internet site is: <http://www.dnr.state.wi.us/runoff/stormwater.htm>

To obtain a copy of the general permit, please download it and the associated documents listed below.

- Construction Site Storm Water Runoff WPDES general permit No. WI-S067831-3:  
[http://dnr.wi.gov/runoff/pdf/stormwater/permits/construction/construction\\_permit\\_S067831-3.pdf](http://dnr.wi.gov/runoff/pdf/stormwater/permits/construction/construction_permit_S067831-3.pdf)
- Construction site inspection report form:  
[http://dnr.wi.gov/runoff/pdf/stormwater/3400187\\_Construction\\_Site\\_Inspection\\_Report.pdf](http://dnr.wi.gov/runoff/pdf/stormwater/3400187_Construction_Site_Inspection_Report.pdf)

- Notice of Termination form:  
<http://dnr.wi.gov/runoff/pdf/stormwater/3400162.pdf>

If, for any reason, you are unable to access these documents over the Internet, please contact me and I will send them to you.

To ensure compliance with the general permit, please read it carefully and be sure you understand its contents. Please take special note of the following requirements (This is not a complete list of the terms and conditions of the general permit.):

1. The Construction Site Erosion Control Plan and Storm Water Management Plan that you completed prior to submitting your permit application must be implemented and maintained throughout construction. Failure to do so may result in enforcement action by the Department.
2. The general permit requires that erosion and sediment controls be routinely inspected at least every 7 days, and within 24 hours after a rainfall event of 0.5 inches or greater. Weekly written reports of all inspections must be maintained. The reports must contain the following information:
  - a. Date, time, and exact place of inspection;
  - b. Name(s) of individual(s) performing inspection;
  - c. An assessment of the condition of erosion and sediment controls;
  - d. A description of any erosion and sediment control implementation and maintenance performed;
  - e. A description of the site's present phase of construction.
3. A **Certificate of Permit Coverage** must be posted in a conspicuous place on the construction site. The Certificate of Permit Coverage (WDNR Publication # WT-813) is enclosed for your use.
4. When construction activities have ceased and the site has undergone final stabilization, a Notice of Termination (NOT) of coverage under the general permit must be submitted to the Department.

It is important that you read and understand the terms and conditions of the general permit because they have the force of law and apply to you. Your project may lose its permit coverage if you do not comply with its terms and conditions. The Department may also withdraw your project from coverage under the general permit and require that you obtain an individual WPDES permit instead, based on the Department's own motion, upon the filing of a written petition by any person, or upon your request.

If you believe that you have a right to challenge this decision to grant permit coverage, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the 30-day period for filing a petition for judicial review.



Thank you for your cooperation with the Construction Site Storm Water Discharge Permit Program. If you have any questions concerning the contents of this letter or the general permit, please contact Bruce Moore at (715) 685-2926.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ellen G. Granquist".

Ellen Granquist  
Northern Region  
Storm Water Management Specialist

ENCLOSURE: Certificate of Permit Coverage



# CERTIFICATE OF PERMIT COVERAGE

UNDER THE  
WPDES CONSTRUCTION SITE STORM WATER RUNOFF PERMIT  
Permit No. WI-S067831-3

Under s. NR 216.455(2), Wis. Adm. Code, landowners of construction sites with storm water discharges regulated by the Wisconsin Department of Natural Resources (WDNR) Storm Water Permit Program are required to post this certificate in a conspicuous place at the construction site. This certifies that the site has been granted WDNR storm water permit coverage. The landowner must implement and maintain erosion control practices to limit sediment-contaminated runoff to waters of the state in accordance with the permit.

## EROSION CONTROL COMPLAINTS

should be reported to the WDNR Tip Line at  
**1-800-TIP-WDNR (1-800-847-9367)**

Please provide the following information to the Tip Line:

WDNR Site No. (FIN): 43368

Site Name: Koppers Inc Superior WI Facility

Address/Location: 3185S Co Rd A Town of SUPERIOR

Additional Information:

Landowner: Beazer East Inc

Landowner's Contact Person: Jane Patarcity

Contact Telephone Number: (412) 208-8813

Permit Start Date: July 27, 2010

By: E. J. [Signature]



## **Appendix E**

Waste Shipping Documentation



**Former Tank Area Waste  
Manifests (Materials sent to  
Clean Harbors – Curruna, ON)**

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number W110003179403	2. Page 1 of 1	3. Emergency Response Phone (700) 487 3718	4. Manifest Tracking Number 000096628 MWI					
5. Generator's Name and Mailing Address Beard Fast Inc 3145 S County Road A Greenlee, WI 54800		Generator's Site Address (if different than mailing address) SAME							
Generator's Phone: (715) 792 2021									
6. Transporter 1 Company Name Clear Harbor Environmental Services Inc			U.S. EPA ID Number W110000192204						
7. Transporter 2 Company Name			U.S. EPA ID Number						
8. Designated Facility Name and Site Address Clear Harbor Landfill 4000 Interflow Rd Greenlee, WI 54800			U.S. EPA ID Number W110000192204						
Facility's Phone: (715) 794 1021									
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
			No.	Type			F012	F034	
	1.	PO. UN3082, WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., CORROSIVE, PENTACHLOROPHENOL 3 IN 1 (3002 F034)							
	2.								
	3.								
4.									
14. Special Handling Instructions and Additional Information L CHARGEABLE EMERGENCY									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offor's Printed/Typed Name			Signature			Month Day Year			
INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input checked="" type="checkbox"/> Export from U.S. Port of entry/exit: <u>SEASIDE CA</u>								
	Transporter signature (for exports only): <u>[Signature]</u> Date leaving U.S.: _____								
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials								
	Transporter 1 Printed/Typed Name			Signature			Month Day Year		
	<u>[Signature]</u>			<u>[Signature]</u>			<u>10 / 1 / 10</u>		
Transporter 2 Printed/Typed Name			Signature			Month Day Year			
DESIGNATED FACILITY	18. Discrepancy								
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
	Manifest Reference Number:								
	18b. Alternate Facility (or Generator)			U.S. EPA ID Number					
	Facility's Phone:								
18c. Signature of Alternate Facility (or Generator)						Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. <u>1000</u>		2.		3.		4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name			Signature			Month Day Year			

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>WID006179493</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>000096628MWI</b>		
5. Generator's Name and Mailing Address <b>Beazer East Inc 3185 S County Road A Superior, WI 54880 (715) 392-2221</b>				Generator's Site Address (if different than mailing address) <b>SAME</b>			
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services Inc</b>					U.S. EPA ID Number <b>MAD039322250</b>		
7. Transporter 2 Company Name					U.S. EPA ID Number		
8. Designated Facility Name and Site Address <b>Clean Harbors Canada Inc 4090 Telfer Road RR #1 Corunna, ON N0N 1G0 (519) 864-1021</b>					U.S. EPA ID Number <b>MIR000035204</b>		
Facility's Phone:							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
x	<b>RO. UN3082. WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., (CREOSOTE, PENTACHLOROPHENOL). 9. PG III (F032, F034)</b>	1	TT	2000	6	F032	F034
14. Special Handling Instructions and Additional Information <b>1. CH459269E ERG#171</b>							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offoror's Printed/Typed Name <b>Jeremy Blackford</b>				Signature <i>[Signature]</i>		Month Day Year <b>10   1   10</b>	
16. International Shipments <input type="checkbox"/> Import to U.S. <input checked="" type="checkbox"/> Export from U.S. Port of entry/exit: <b>SARNIA ON</b> Transporter signature (for exports only): <i>[Signature]</i> Date leaving U.S.:							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <b>S. Housh</b>				Signature <i>[Signature]</i>		Month Day Year <b>10   1   10</b>	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number:							
18b. Alternate Facility (or Generator)					U.S. EPA ID Number		
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator)					Month Day Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. <b>H040</b>		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a							
Printed/Typed Name				Signature		Month Day Year	



Land Disposal Restriction  
Notification Form

Printed Date : Sep 28, 2010

MANIFEST INFORMATION

Generator : Beazer East Inc  
Address: 3185 S County Road A  
Superior, WI 54880

Manifest Tracking Info.

000096628MWI

EPA ID #: WID006179493

Sales Order No: I53107135-002

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH459269B	NON-WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code  
F032F034

EPA Waste SubCategory  
NONE

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

*[Handwritten Signature]*

Print Name

*[Handwritten Signature]* ROBERT KUDRA

Title :

Proc. Superintendent

Date :

10/1/10

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number W11000172495	2. Page 1 of 1	3. Emergency Response Phone (303) 444 7718	4. Manifest Tracking Number 000096629 MWI	
5. Generator's Name and Mailing Address Clean Harbor El Dorado LLC 300 American Circle El Dorado AR 71730			Generator's Site Address (if different than mailing address) SAME			
Generator's Phone: 870 607 7173						
6. Transporter 1 Company Name Clean Harbor Environmental Services Inc				U.S. EPA ID Number W A 110 9 W 12 2 0 0 0		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address Clean Harbor El Dorado LLC 300 American Circle El Dorado AR 71730				U.S. EPA ID Number A R D O 9 9 7 4 R 2 1 9 8		
Facility's Phone: 870 607 7173						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
1.	REFRIGERANT GAS (R-134a) LIQUID IN A PRESSURIZED CONTAINER					1000 0000
2.						
3.						
4.						
14. Special Handling Instructions and Additional Information 1. CH2F2 1.4G (HAP) (HAP) (HAP)						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offeror's Printed/Typed Name				Signature		Month Day Year
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name				Signature		Month Day Year
Transporter 2 Printed/Typed Name				Signature		Month Day Year
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number: _____						
18b. Alternate Facility (or Generator)				U.S. EPA ID Number		
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator)						Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.	2.	3.	4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name				Signature		Month Day Year



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

10/10/2003

9/14/2010

Form Approved. OMB No. 2050-003

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number  
WID000179400

2. Page 1 of 1

3. Emergency Response Phone  
(800) 457 7710

4. Manifest Tracking Number  
000096630 MW

5. Generator's Name and Mailing Address  
Drazzy East Inc  
3100 S County Road A  
Superior, WI 54980  
Generator's Phone: 715 291 2271

Generator's Site Address (if different than mailing address)  
SAME

6. Transporter 1 Company Name  
Clean Harbor Environmental Services Inc  
U.S. EPA ID Number  
MA0019122250

7. Transporter 2 Company Name  
U.S. EPA ID Number

8. Designated Facility Name and Site Address  
Clean Harbor El Dorado LLC  
300 American Circle  
El Dorado AR 71730  
Facility's Phone: 870 663 7173  
U.S. EPA ID Number  
AR006478192

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type			F002	F03A
1.	NO HAZARDOUS WASTE LIQUID NO 9 (F002) 3A D, PG III	7					
2.							
3.							
4.							

14. Special Handling Instructions and Additional Information  
L 00000140

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offorer's Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_ Year: \_\_\_\_\_

16. International Shipments  Import to U.S.  Export from U.S. Port of entry/exit: \_\_\_\_\_ Date leaving U.S.: \_\_\_\_\_

17. Transporter Acknowledgment of Receipt of Materials  
Transporter 1 Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_ Year: \_\_\_\_\_  
Transporter 2 Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_ Year: \_\_\_\_\_

18. Discrepancy  
18a. Discrepancy Indication Space  Quantity  Type  Residue  Partial Rejection  Full Rejection  
Manifest Reference Number: \_\_\_\_\_

18b. Alternate Facility (or Generator) U.S. EPA ID Number: \_\_\_\_\_  
Facility's Phone: \_\_\_\_\_

18c. Signature of Alternate Facility (or Generator) \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)  
1. W040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a  
Printed/Typed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_

GENERATOR

TRANSPORTER INT'L

DESIGNATED FACILITY



Land Disposal Restriction Notification Form

Printed Date : Sep 28, 2010

MANIFEST INFORMATION

Generator : Beazer East Inc  
Address: 3185 S County Road A  
Superior, WI 54880

Manifest Tracking Info.

000096630MWI

EPA ID #: W I D 0 0 6 1 7 9 4 9 3

Sales Order No: 153107135-003

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH220142	NON-WASTEWATER	2 (This is subject to LDR.)
EPA Waste Code			EPA Waste SubCategory	
F032F034			NONE	

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

Print Name

(X) James Cody Johnson

Title :

Date :

10-5-10

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number W1100001111111	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 003425620 <b>FLE</b>		
5. Generator's Name and Mailing Address KOPPER INC. 1100 N. Main Street WINDYBROOK, IL 60090				Generator's Site Address (if different than mailing address) DATA			
Generator's Phone: 708-291-2000							
6. Transporter 1 Company Name KOPPER INC. Environmental Services Div.				U.S. EPA ID Number W1100001111111			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address KOPPER INC. 3000 3000 Tolson Road WINDYBROOK, IL 60090				U.S. EPA ID Number W1100001111111			
Facility's Phone: 708-291-2000							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
1.	UNCLUST WASTE ENVIRONMENTAL HAZARDOUS SUBSTANCE(S), SOLID, N.O.S. (OTHER THAN ORGANOPHOSPHORUS NAPHTHYLENE SULFONATE)	21	CM	20	Y	EQ 12	EQ 13
2.							
3.							
4.							
14. Special Handling Instructions and Additional Information							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offoror's Printed/Typed Name ROBERT A. FISHER				Signature Robert A. Fisher		Month Day Year 10 11 10	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name				Signature		Month Day Year	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number: _____							
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone: _____							
18c. Signature of Alternate Facility (or Generator)						Month Day Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. _____		2. _____		3. _____		4. _____	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name				Signature		Month Day Year	



Land Disposal Restriction Notification Form

WORKING COPY

Printed Date : Sep 01, 2010

MANIFEST INFORMATION

Generator : Beazer East Inc
Address: 3185 S County Road A Superior, WI 54880
EPA ID #: WID006179493

Manifest Tracking Info.

003425620 FLE

Sales Order No: D73066014

LINE ITEM INFORMATION

Table with 5 columns: Line Item, Page No, Profile No, Treatability Group, LDR Disposal Category. Row 1: 1, 1, CH421279B, NON-WASTEWATER, 3 (Alternate Debris Standard). Below: EPA Waste Code F032F034, EPA Waste SubCategory NONE.

LDR Chemical Data

Table with 4 columns: Chemical, Underlying Hazardous Constituents, Constituents of Concern, Contaminants Subject to Treatment. Lists chemicals like ACENAPHTHENE, ANTHRACENE, etc.

Certification

Applies to Manifest Line Items

This hazardous debris is subject to the Alternate Treatment Standards of 40 CFR 268.45.

1.

Waste analysis data, where available, is attached.

Signature :

Handwritten signature of Robert A. Fisher and title MANAGER - WASTE MGT.

Print Name

ROBERT A. FISHER

Title :

Date :

10/19/10

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number W1000A12345	2. Page 1 of 1	3. Emergency Response Phone (800) 424-9313	4. Manifest Tracking Number 003425621 FLE		
5. Generator's Name and Mailing Address General Electric / GE Power Inc. 1234 5th Avenue Columbus, OH 43201				Generator's Site Address (if different than mailing address) L.A.M.			
Generator's Phone: (714) 234-5678							
6. Transporter 1 Company Name General Electric Environmental Services Inc.				U.S. EPA ID Number MA100123456			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address General Electric Manufacturing 4567 10th Street Columbus, OH 43201				U.S. EPA ID Number MA100001234			
Facility's Phone: (614) 567-8901							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
	1. IN 1077 WASTE ENVIRONMENTAL HAZARDOUS SHEET/15.5500 NON-FLAMMABLE LIQUID	01	CM	20	Y	1000	1014
	2.						
	3.						
	4.						
14. Special Handling Instructions and Additional Information NO SPECIAL HANDLING INSTRUCTIONS							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offeror's Printed/Typed Name John A. Jones				Signature <i>[Signature]</i>		Month Day Year 10 12 10	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name John A. Jones				Signature <i>[Signature]</i>		Month Day Year 10 12 10	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number:							
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator)						Month Day Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. (11)		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name				Signature		Month Day Year	

I, the undersigned, hereby acknowledge receipt of this manifest and will accept the waste and operations as shipped.

WORKING COPY

Land Disposal Restriction  
Notification Form

Page : 1 of 1

Printed Date : Sep 01, 2010



MANIFEST INFORMATION

Generator : Beazer East Inc  
Address: 3185 S County Road A  
Superior, WI 54880  
EPA ID #: WID006179493

Manifest Tracking Info.

003425621 file

Sales Order No: D73066014

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH421279B	NON-WASTEWATER	3 (Alternate Debris Standard)

EPA Waste Code	EPA Waste SubCategory
F032F034	NONE

LDR Chemical Data

Chemical	Underlying Hazardous Constituents	Constituents of Concern	Contaminants Subject to Treatment
ACENAPHTHENE	N	N	Y
ANTHRACENE	N	N	Y
BENZ (A) ANTHRACENE	N	N	Y
BENZO (B) FLUORANTHENE	N	N	Y
BENZO (K) FLUORANTHENE	N	N	Y
CHRYSENE	N	N	Y
FLUORENE	N	N	Y
NAPHTHALENE	N	N	Y
PENTACHLORPHENOL	N	N	Y
PHENANTHRENE	N	N	Y

Certification

Applies to  
Manifest Line  
Items

This hazardous debris is subject to the Alternate Treatment Standards of 40 CFR 268.45.

1.

Waste analysis data, where available, is attached.

Signature :

Print Name

ROBERT A. FISHER

Title :

MANAGER - WASTE MGT.

Date :

10/22/10

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number <b>003425622 FLE</b>		
5. Generator's Name and Mailing Address <i>Waste Management, Inc.</i>				Generator's Site Address (if different than mailing address) <i>10000</i>			
Generator's Phone: <i>(714) 942-2200</i>							
6. Transporter 1 Company Name <i>Waste Management, Inc.</i>				U.S. EPA ID Number <i>PA 130 10 173 130</i>			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address <i>Waste Management, Inc.</i>				U.S. EPA ID Number <i>PA 130 10 173 130</i>			
Facility's Phone: <i>(714) 942-2200</i>							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
1.	<i>HAZARDOUS WASTE ENVIRONMENTALLY HAZARDOUS</i>	<i>1</i>	<i>M</i>	<i>1</i>	<i>Y</i>	<i>1000</i>	<i>1000</i>
2.							
3.							
4.							
14. Special Handling Instructions and Additional Information							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offorer's Printed/Typed Name <i>Waste Management, Inc.</i>				Signature <i>[Signature]</i>		Month Day Year <i>10 27 10</i>	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <i>[Name]</i>				Signature <i>[Signature]</i>		Month Day Year <i>[Blank]</i>	
Transporter 2 Printed/Typed Name				Signature		Month Day Year	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number: _____							
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone: _____							
18c. Signature of Alternate Facility (or Generator)						Month Day Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. <i>1000</i>		2. _____		3. _____		4. _____	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name <i>[Name]</i>				Signature <i>[Signature]</i>		Month Day Year <i>[Blank]</i>	

It is the responsibility of the shipper to properly label and package hazardous waste for transport.



Land Disposal Restriction Notification Form

WORKING COPY Page: 1 of 1

Printed Date : Sep 01, 2010

MANIFEST INFORMATION

Generator : Beazer East Inc	Manifest Tracking Info. <b>003425622 FUE</b>
Address: 3185 S County Road A Superior, WI 54880	
EPA ID #: WID006179493	Sales Order No: D73066014

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH421279B	NON-WASTEWATER	3 (Alternate Debris Standard)
EPA Waste Code			EPA Waste SubCategory	
F032F034			NONE	

LDR Chemical Data

Chemical	Underlying Hazardous Constituents	Constituents of Concern	Contaminants Subject to Treatment
ACENAPHTHENE	N	N	Y
ANTHRACENE	N	N	Y
BENZ (A) ANTHRACENE	N	N	Y
BENZO (B) FLUORANTHENE	N	N	Y
BENZO (K) FLUORANTHENE	N	N	Y
CHRYSENE	N	N	Y
FLUORENE	N	N	Y
NAPHTHALENE	N	N	Y
PENTACHLORPHENOL	N	N	Y
PHENANTHRENE	N	N	Y

Certification

Applies to Manifest Line Items

This hazardous debris is subject to the Alternate Treatment Standards of 40 CFR 268.45.

1.

Waste analysis data, where available, is attached.

Signature :

*Robert A. Fisher*

Print Name

ROBERT A. FISHER

Title :

MANAGER - Waste Mgt.

Date :

10/27/10





**Treated Water Weight Tickets  
(Water sent to Superior POTW)**

# JEFF FOSTER PETROLEUM DIVISION

33 WINTER STREET  
SUPERIOR, WI 54880

NO 43481

Date 11-19-10

Load at Superior, Koppers site

State WI

PO # \_\_\_\_\_

LOAD UNDER: Sevenson Environmental Services

PRODUCT:	OXY	Ordered GALLONS	Delivered GALLONS
Gasoline: UN1203 Flammable-liquid UNLEADED			
Gasoline: UN1203 Flammable-liquid UNLEADED PLUS			
Gasoline: UN1203 Flammable-liquid UNLEADED PREMIUM			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA 1993 LOW SULPHUR BIO CLEAR			
<u>Waste water</u> <u>Pick up</u>			<u>5000</u>

### STICK READINGS

BEFORE	AFTER
<input type="text"/>	<input type="text"/>

BEFORE	AFTER
<input type="text"/>	<input type="text"/>

BEFORE	AFTER
<input type="text"/>	<input type="text"/>

DELIVER TO: Superior Waste water Treatment Facility

DELIVERY TIME  
\_\_\_\_\_

BILL OF LADING # \_\_\_\_\_

DRIVER Gunnar Peterson

TRUCK # 4020 TRAILER # T-112

SIGNED [Signature]

**JEFF FOSTER PETROLEUM DIVISION**

33 WINTER STREET  
SUPERIOR, WI 54880

43480

Date 11-19-10

Load at Superior, Koppers site State WI

PO # \_\_\_\_\_

LOAD UNDER: Sorenson Environmental Services

PRODUCT:	OXY	Ordered GALLONS	Delivered GALLONS
Gasoline: UN1203 Flammable-liquid UNLEADED			
Gasoline: UN1203 Flammable-liquid UNLEADED PLUS			
Gasoline: UN1203 Flammable-liquid UNLEADED PREMIUM			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA 1993 LOW SULPHUR BIO CLEAR			
<u>Waste water pick up</u>			<u>5000</u>

**STICK READINGS**

BEFORE AFTER  
[ ] [ ]

BEFORE AFTER  
[ ] [ ]

BEFORE AFTER  
[ ] [ ]

DELIVER TO: Superior waste water Treatment Facility

DELIVERY TIME  
\_\_\_\_\_

BILL OF LADING # \_\_\_\_\_

DRIVER Gunnar Peterson

TRUCK # 4020 TRAILER # T-112

SIGNED [Signature]

**JEFF FOSTER PETROLEUM DIVISION**

33 WINTER STREET  
SUPERIOR, WI 54880

Date 11-19-10

43479

Load at Superior WI, Koppers State WI

PO # 145025

LOAD UNDER: Sevenson Environmental Services

PRODUCT:	OXY	Ordered GALLONS	Delivered GALLONS
Gasoline: UN1203 Flammable-liquid UNLEADED			
Gasoline: UN1203 Flammable-liquid UNLEADED PLUS			
Gasoline: UN1203 Flammable-liquid UNLEADED PREMIUM			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA 1993 LOW SULPHUR BIO CLEAR			
<u>Waste Water</u> <sup>Pick up</sup>			<u>5000</u>

**STICK READINGS**

BEFORE AFTER

BEFORE AFTER

BEFORE AFTER

DELIVER TO: Superior Waste Water Treatment Facility

DELIVERY TIME  
\_\_\_\_\_

BILL OF LADING # \_\_\_\_\_

DRIVER Gunnar Peterson

TRUCK # 4020 TRAILER # T-112

SIGNED [Signature]

# JEFF FOSTER PETROLEUM DIVISION

33 WINTER STREET  
SUPERIOR, WI 54880

NO 51228

Load at Koppers Superior

Date 11-24-10

State WI

PO # \_\_\_\_\_

LOAD UNDER: Seven son

PRODUCT:	OXY	Ordered GALLONS	Delivered GALLONS
Gasoline: UN1203 Flammable-liquid UNLEADED			
Gasoline: UN1203 Flammable-liquid UNLEADED PLUS			
Gasoline: UN1203 Flammable-liquid UNLEADED PREMIUM			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA 1993 LOW SULPHUR BIO CLEAR			
<u>Water</u>		<u>5500</u>	<u>5500</u>

### STICK READINGS

BEFORE AFTER

--	--

BEFORE AFTER

--	--

BEFORE AFTER

--	--

DELIVER TO: Superior Waste Water Treatment  
Superior WI

DELIVERY TIME

BILL OF LADING # 51228

DRIVER G. Podorski

TRUCK # 1053 TRAILER # 7-112

SIGNED [Signature]

**JEFF FOSTER PETROLEUM**

33 WINTER STREET  
SUPERIOR, WI 54880

No 51227

Load at Koppers Superior

Date 11-24-10

State WI

PO # \_\_\_\_\_

LOAD UNDER: Sevenson

PRODUCT:	OXY	Ordered GALLONS	Delivered GALLONS
Gasoline: UN1203 Flammable-liquid UNLEADED			
Gasoline: UN1203 Flammable-liquid UNLEADED PLUS			
Gasoline: UN1203 Flammable-liquid UNLEADED PREMIUM			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#1 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 LOW SULPHUR "CLEAR"			
#2 fuel oil COMBUSTIBLE LIQUID NA1993 HIGH SULPHUR "RED"			
#2 fuel oil COMBUSTIBLE LIQUID NA 1993 LOW SULPHUR BIO CLEAR			
<u>Water</u>		<u>5500</u>	<u>5500</u>

**STICK READINGS**

BEFORE AFTER

BEFORE AFTER

BEFORE AFTER

DELIVER TO: Superior Waste Water Treatment  
Superior WI.

DELIVERY TIME \_\_\_\_\_

BILL OF LADING # 51227

DRIVER G. Pedersen

TRUCK # 4053 TRAILER # T-112

SIGNED [Signature]



**Rail Tie Bills of Lading  
(Materials sent to Tangent Rail  
Energy – Duluth, MN)**

**This Memorandum**

is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

**MEMORANDUM COPY OF STRAIGHT BILL OF LADING — SHORT FORM**

**SHIPPERS NO.**

FREIGHT BASIS:

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,

FROM BEAZER EAST INC. AT SUPERIOR, WISCONSIN DATE 12-1-10

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including classification bills of lading conditions, which are hereby agreed to be the shipper and accepted for himself and his assigns.

SHIPPERS ORDER #:

SHIP TO:  
TANGENT RAIL ENERGY  
5020 LESURE STREET  
DULUTH, MN. 55807

CARRIER/VEHICLE #: UDEEN TRUCKING  
ROUTE: TRUCK # 25  
SOLD TO:

CUSTOMERS P.O. #:

PACKAGES NO. AND KIND	HM	DOT SHIPPING NAME/HAZARD CLASS (IF APPLICABLE)	DESCRIPTION OF ARTICLES, SPECIAL MARKS & EXCEPTIONS	WEIGHT (SUBJECT TO CORRECTION)
1 LD			<u>WEATHERED RAIL TIES</u>	

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: **The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.**

(Signature of Consignor) per See ★ below

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

PER [Signature]

\*Note: Where the rate is dependent on value, shipper's are required to state specifically in writing the released or declared value of the property. The agreed or declared value of the property is hereby stated by the shipper to be not exceeding 170 cents per pound for each distribution package.

†Shipper hereby certifies that this shipment is correctly described; correct weight is shown and is subject to verification according to agreement with the Weighing and Inspection Bureau having jurisdiction.

PER

PERMANENT POST-OFFICE ADDRESS OF SHIPPER:  
Koppers Industries, Inc.  
436 Seventh Avenue  
Pittsburgh, PA 15219-1800

AGENT

PER

\* Signature of Shipper's agent next above is also intended as execution of Section 7  
Signature above must appear in longhand  
KI 39 12/92



**This Memorandum**

is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

**MEMORANDUM COPY OF STRAIGHT BILL OF LADING — SHORT FORM**

**SHIPPERS NO.**

FREIGHT BASIS:

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,

FROM BEAZER, EAST INC. AT SUPPLICE, WISCONSIN DATE 12-1-10

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including classification bills of lading conditions, which are hereby agreed to be the shipper and accepted for himself and his assigns.

SHIPPERS ORDER #:

SHIP TO:  
TANGENT TAIL ENERGY  
5020 LEASURE STREET  
DULUTH, MN 55807

CARRIER/VEHICLE #: UDEEN TRUCKING  
ROUTE: TRK # 25  
SOLD TO:

CUSTOMERS P.O. #:

PACKAGES NO. AND KIND	HM	DOT SHIPPING NAME/HAZARD CLASS (IF APPLICABLE)	DESCRIPTION OF ARTICLES, SPECIAL MARKS & EXCEPTIONS	WEIGHT (SUBJECT TO CORRECTION)
-----------------------	----	--	---	--------------------------------

1 LD			WEATHERED TAIL TIES	
------	--	--	---------------------	--

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: **The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.**

(Signature of Consignor) per See ★ below

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

PER [Signature]

\*Note: Where the rate is dependent on value, shipper's are required to state specifically in writing the released or declared value of the property. The agreed or declared value of the property is hereby stated by the shipper to be not exceeding 170 cents per pound for each distribution package.

Shipper hereby certifies that this shipment is correctly described; correct weight is shown and is subject to verification according to agreement with the Weighing and Inspection Bureau having jurisdiction.

PER [Signature]

PERMANENT POST-OFFICE ADDRESS OF SHIPPER:

Koppers Industries, Inc.  
436 Seventh Avenue  
Pittsburgh, PA 15219-1800

AGENT

\* Signature of Shipper's agent next above is also intended as execution of Section 7  
Signature above must appear in longhand  
KI 39 12/92

**This Memorandum**

is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

**MEMORANDUM COPY OF STRAIGHT BILL OF LADING — SHORT FORM**

**SHIPPERS NO.**

FREIGHT BASIS:

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,

FROM BEAZER EXPT INC. AT SUPERIOR, WISCONSIN DATE 12-1-10

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own road or its own water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including classification bills of lading conditions, which are hereby agreed to be the shipper and accepted for himself and his assigns.

SHIPPERS ORDER #:

SHIP TO:  
TANGENT RAIL ENERGY  
5030 LEASURE STREET  
FULWATH, MN. 55807

CARRIER/VEHICLE #:  
GREEN TRUCKING  
ROUTE: TRUCK #25  
SOLD TO:

CUSTOMERS P.O. #:

PACKAGES NO. AND KIND	HM	DOT SHIPPING NAME/HAZARD CLASS (IF APPLICABLE)	DESCRIPTION OF ARTICLES, SPECIAL MARKS & EXCEPTIONS	WEIGHT (SUBJECT TO CORRECTION)
-----------------------	----	--	---	--------------------------------

1 LD			WEATHERED RAIL TIES	
------	--	--	---------------------	--

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: **The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.**

(Signature of Consignor) per See ★ below

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

PER [Signature]

\*Note: Where the rate is dependent on value, shipper's are required to state specifically in writing the released or declared value of the property. The agreed or declared value of the property is hereby stated by the shipper to be not exceeding 170 cents per pound for each distribution package.\*

†Shipper hereby certifies that this shipment is correctly described; correct weight is shown and is subject to verification according to agreement with the Weighing and Inspection Bureau having jurisdiction.

PER

PERMANENT POST-OFFICE ADDRESS OF SHIPPER:

Koppers Industries, Inc.  
436 Seventh Avenue  
Pittsburgh, PA 15219-1800

AGENT

PER

★ Signature of Shipper's agent next above is also intended as execution of Section 7  
Signature above must appear in longhand  
KI 39 12/92



## **Appendix F**

Record Drawings

# RECORD DRAWINGS

# SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM

**KOPPERS INC. FACILITY  
SUPERIOR, WISCONSIN  
BEAZER EAST, INC.**

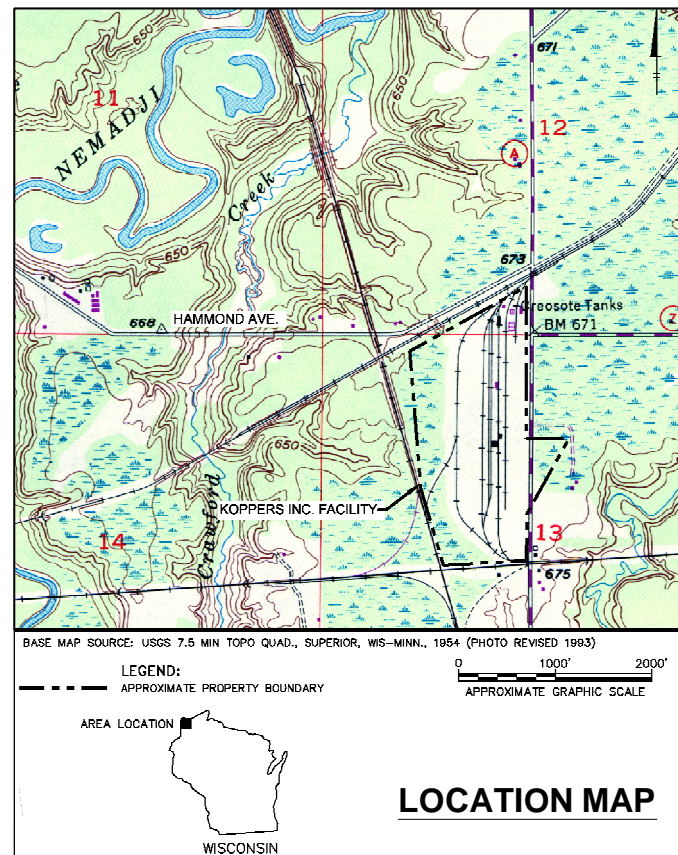
**SEPTEMBER 2011**

KEY CONTACTS:

RESPONDENT:  
BEAZER EAST INC.  
ONE OXFORD CENTRE, SUITE 3000  
PITTSBURGH, PENNSYLVANIA 15219  
CONTACT: JANE PATARCITY  
TELEPHONE: 412.208.8813

SURVEYORS:  
LHB, INC.  
21 WEST SUPERIOR STREET, SUITE 500  
DULUTH, MINNESOTA 55802  
TELEPHONE: 218.727.8446

ENGINEER:  
ARCADIS U.S., INC.  
1687 COLE BOULEVARD, SUITE 200  
LAKEWOOD, COLORADO 80401  
CONTACT: HILLARY EVANKO, P.E.  
TELEPHONE: 303.231.9115 x108



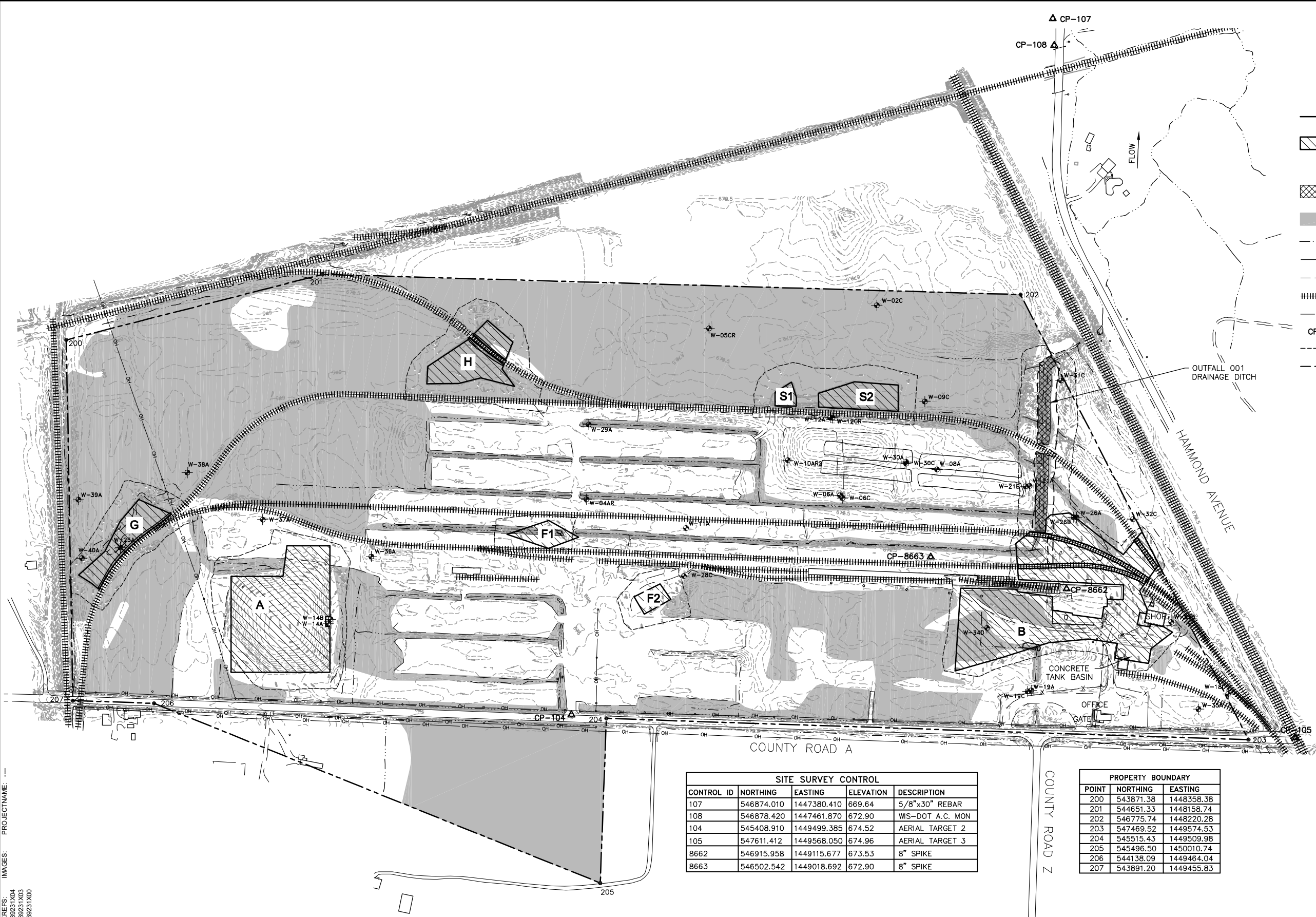
INDEX TO DRAWINGS

RD-0	COVER
RD-1	POST CONSTRUCTION LAYOUT - OVERALL SITE PLAN
RD-2	POST CONSTRUCTION LAYOUT - AREA B
RD-3	POST CONSTRUCTION LAYOUT - AREAS A1, A2, F1, & F2
RD-4	POST CONSTRUCTION LAYOUT - AREA H, S1 & S2
RD-5	POST CONSTRUCTION LAYOUT - AREA G
RD-6	POST CONSTRUCTION SURFACE COVER DETAILS
RD-7	POST CONSTRUCTION LAYOUT - OUTFALL 001 DRAINAGE DITCH
RD-8	POST CONSTRUCTION OUTFALL 001 DITCH SECTIONS AND DETAILS
RD-9	POST CONSTRUCTION OUTFALL 001 DITCH SECTIONS AND DETAILS



ARCADIS U.S., INC.

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYRON="OFF"=REF: G:\ENVCAD\HOUSTON\ACT\B0039231\00000000\DWG\38231RD1.DWG LAYOUT: RD-1 SAVED: 9/9/2011 4:20 PM ACADVER: 18.05 (LMS TECH) PAGES: 18 PLOTTED: 9/9/2011 4:46 PM BY: INNISS, HAYDEN

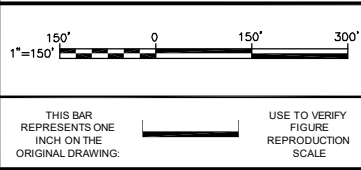


- LEGEND:**
- W-02C MONITORING WELL
  - KOPPERS INC. FACILITY PROPERTY BOUNDARY
  - [Hatched Box] LIMIT OF 1' SURFACE COVER
  - A2 TARGETED ON-PROPERTY SOIL CORRECTIVE ACTION AREA ID
  - [Cross-hatched Box] TARGETED OUTFALL 001 DRAINAGE DITCH CORRECTIVE ACTION AREA
  - [Grey Box] PRE-CONSTRUCTION WETLAND AREA (SEE NOTE 3)
  - WATER COURSE
  - OH OVERHEAD POWER LINE (APPROXIMATE)
  - 675 ELEVATION CONTOUR
  - ||||| RAILROAD LINES
  - GRAVEL ACCESS ROAD
  - CP-108 Δ SURVEY CONTROL POINT
  - LIMIT OF AS-BUILT SURVEY
  - LIMIT OF DITCH WORK

- GENERAL NOTES:**
- BASE MAP OBTAINED FROM PHOTOGAMMETRY PERFORMED BY LOCKWOOD MAPPING COMPANY OF ROCHESTER, NY (12/28/01). GENERAL TOPOGRAPHY OBTAINED FROM AERIAL PHOTOGRAPHY BASED SURVEY BY AXIS GEOSPATIAL COMPANIES OF EASTON, MARYLAND (8/17/08). AS-BUILT TOPOGRAPHY OF CORRECTIVE ACTION AREAS OBTAINED FROM GROUND SURVEY BY LHB, INC. OF DULUTH, MINNESOTA.
  - ALL LOCATIONS ARE APPROXIMATE.
  - APPROXIMATE PRE-CONSTRUCTION WETLAND LOCATIONS BASED ON WETLAND DELINEATION PERFORMED BY ENVIRONMENTAL TROUBLESHOOTERS, INC. OF DULUTH, MN IN 2002 (AND SUBSEQUENT SURVEY BY L.W. SURVEY ENGINEERING & DESIGN COMPANY OF DULUTH, MN), WETLAND DELINEATION PERFORMED BY ENVIRONMENTAL TROUBLESHOOTERS, INC. OF DULUTH, MN IN 2004, AND WETLAND DELINEATION PERFORMED BY ARCADIS BBL IN 2007.
  - ELEVATION DATA REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

SITE SURVEY CONTROL				
CONTROL ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
107	546874.010	1447380.410	669.64	5/8"x30" REBAR
108	546878.420	1447461.870	672.90	WS-DOT A.C. MON
104	545408.910	1449499.385	674.52	AERIAL TARGET 2
105	547611.412	1449568.050	674.96	AERIAL TARGET 3
8662	546915.958	1449115.677	673.53	8" SPIKE
8663	546502.542	1449018.692	672.90	8" SPIKE

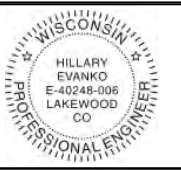
PROPERTY BOUNDARY		
POINT	NORTHING	EASTING
200	543871.38	1448358.38
201	544651.33	1448158.74
202	546775.74	1448220.28
203	547469.52	1449574.53
204	545515.43	1449509.98
205	545496.50	1450010.74
206	544138.09	1449464.04
207	543891.20	1449455.83



No.	Date	Revisions	HSI	HME
0	09/11	AS-BUILTS		

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Professional Engineer's Name  
**HILLARY EVANKO**  
Professional Engineer's No.  
40248-006  
State: \_\_\_\_\_ Date Signed: \_\_\_\_\_ Project Mgr.: \_\_\_\_\_  
Designed by: HME Drawn by: HSI Checked by: TEH

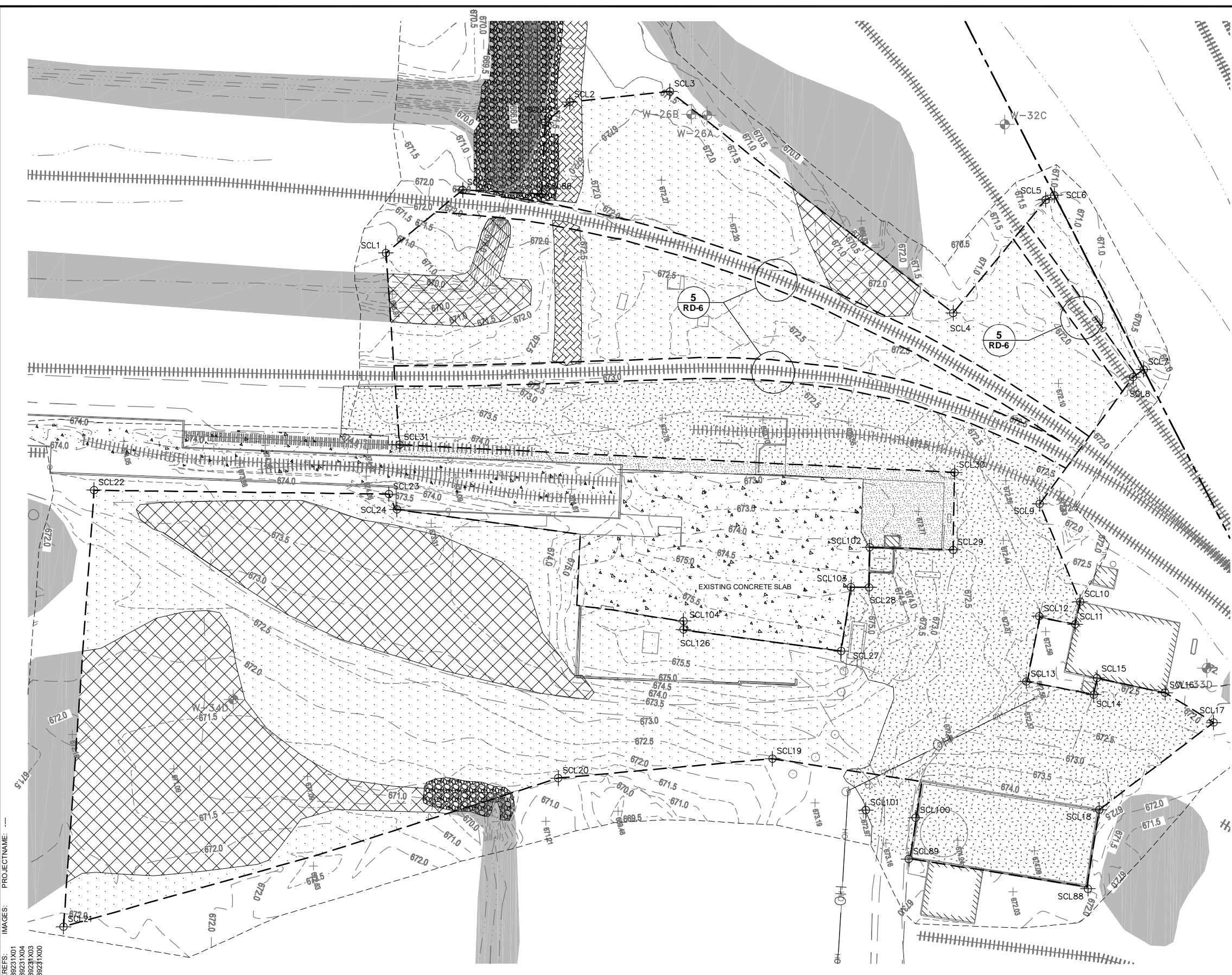


KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**POST CONSTRUCTION LAYOUT - OVERALL SITE PLAN**

ARCADIS Project No. B0039231  
Date AUGUST 2011  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**RD-1**

CITY: DIV/GROUP: DB: LD: PIC: PM: TM: LYRON="OFF=REF: G:\ENVCAD\HOUSTON\ACT\B0039231\00000001\DWG\39231RD2\RD2-R05.DWG LAYOUT: RD-2 SAVED: 8/31/2011 12:26 PM ACADVER: 18.05 (LMS TECH) PAGES: 18.05 PLOTSTYLETABLE: --- PLOTSETUP: --- PLOTSTYLETABLE: --- PLOTTED: 9/9/2011 4:09 PM BY: INNIS, HAYDEN

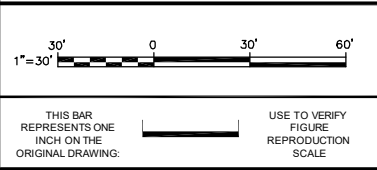


**LEGEND:**

- MONITORING WELL
- SURFACE COVER LIMIT MARKER
- KOPPERS INC. FACILITY PROPERTY BOUNDARY
- LIMIT OF 1' SURFACE COVER
- LIMIT OF AS-BUILT SURVEY
- WETLAND AREA
- WATER COURSE
- OH OVERHEAD POWER LINE (APPROXIMATE)
- 675 ELEVATION CONTOUR
- + 675 SPOT ELEVATION
- RAILROAD LINES
- VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING RD-6)
- ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING RD-6)
- CLAY VEGETATED SURFACE COVER (SEE DETAIL 3, DRAWING RD-6)
- R-3 RIPRAP
- GRAVEL (SEE NOTE 1)
- CONCRETE
- STONE ACCESS ROAD

**NOTE:**

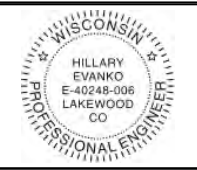
1. SURFACE GRADING AND RESTORATION WITH GRAVEL EXTENDED BEYOND THE 1' SURFACE COVER LIMITS AS NECESSARY TO MAINTAIN SITE DRAINAGE.



No.	Date	Revisions	HSI	HME
0	09/11	AS-BUILTS		

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Professional Engineer's Name  
**HILLARY EVANKO**  
Professional Engineer's No.  
40248-006  
State: \_\_\_\_\_ Date Signed: \_\_\_\_\_ Project Mgr.: \_\_\_\_\_  
Designed by: HME Drawn by: HSI Checked by: TEH

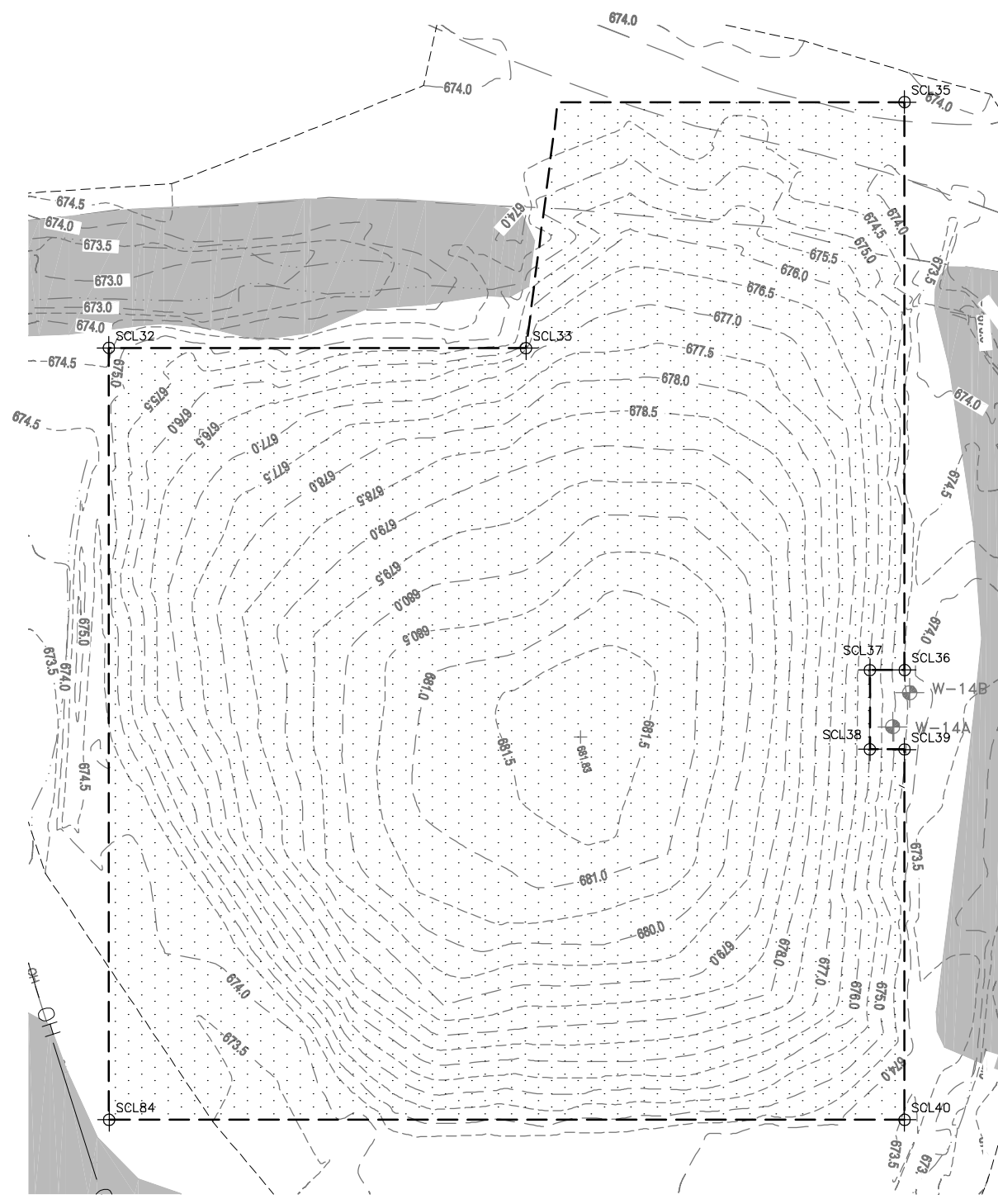


KOPPERS INC. FACILITY, BEAZER EAST INC. • SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**POST CONSTRUCTION LAYOUT - AREA B**

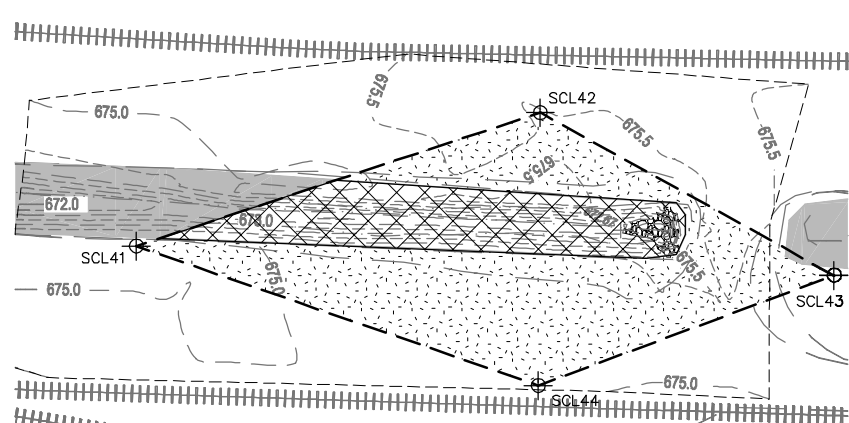
ARCADIS Project No.  
B0039231  
Date  
AUGUST 2011  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 900  
HOUSTON, TX 77042  
713-953-4800

**RD-2**

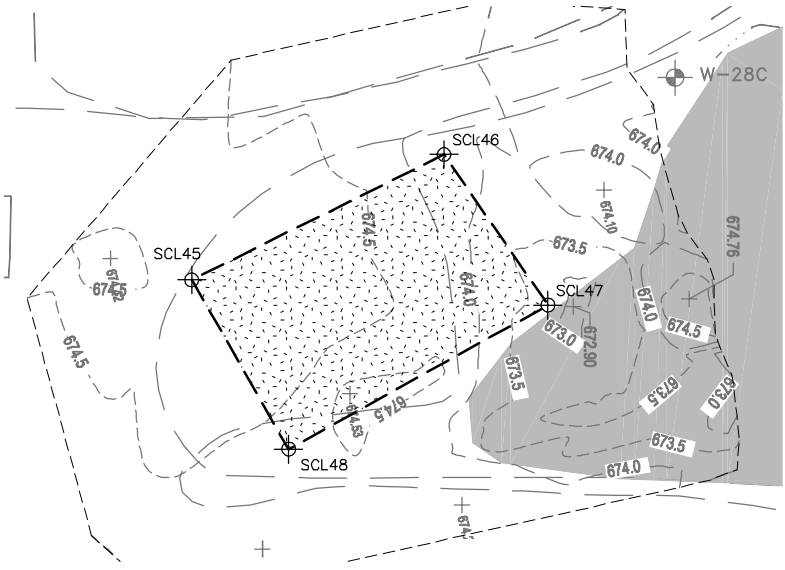
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 IMAGES: PROJECTNAME:



**AREAS A1 & A2**  
SCALE: 1" = 30'

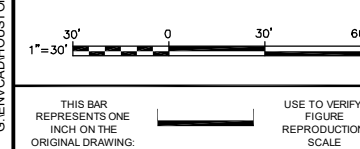


**AREA F1**  
SCALE: 1" = 30'



**AREA F2**  
SCALE: 1" = 30'

- LEGEND:**
- MONITORING WELL
  - SURFACE COVER LIMIT MARKER
  - LIMIT OF 1' SURFACE COVER
  - LIMIT OF AS-BUILT SURVEY
  - WETLAND AREA
  - WATER COURSE
  - OH OVERHEAD POWER LINE (APPROXIMATE)
  - 675 ELEVATION CONTOUR
  - + 675 SPOT ELEVATION
  - RAILROAD LINES
  - VEGETATED SURFACE COVER (SEE DETAIL 1, DRAWING RD-6)
  - ROAD BASE SURFACE COVER (SEE DETAIL 2, DRAWING RD-6)
  - CLAY VEGETATED SURFACE COVER (SEE DETAIL 3, DRAWING RD-6)
  - R-3 RIPRAP



No.	Date	Revisions	By	Ckd
0	09/11	AS-BUILTS	HSI	HME

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Professional Engineer's Name  
**HILLARY EVANKO**  
Professional Engineer's No.  
40248-006  
State  
Date Signed  
Project Mgr.

Designed by  
HME  
Drawn by  
HSI  
Checked by  
TEH

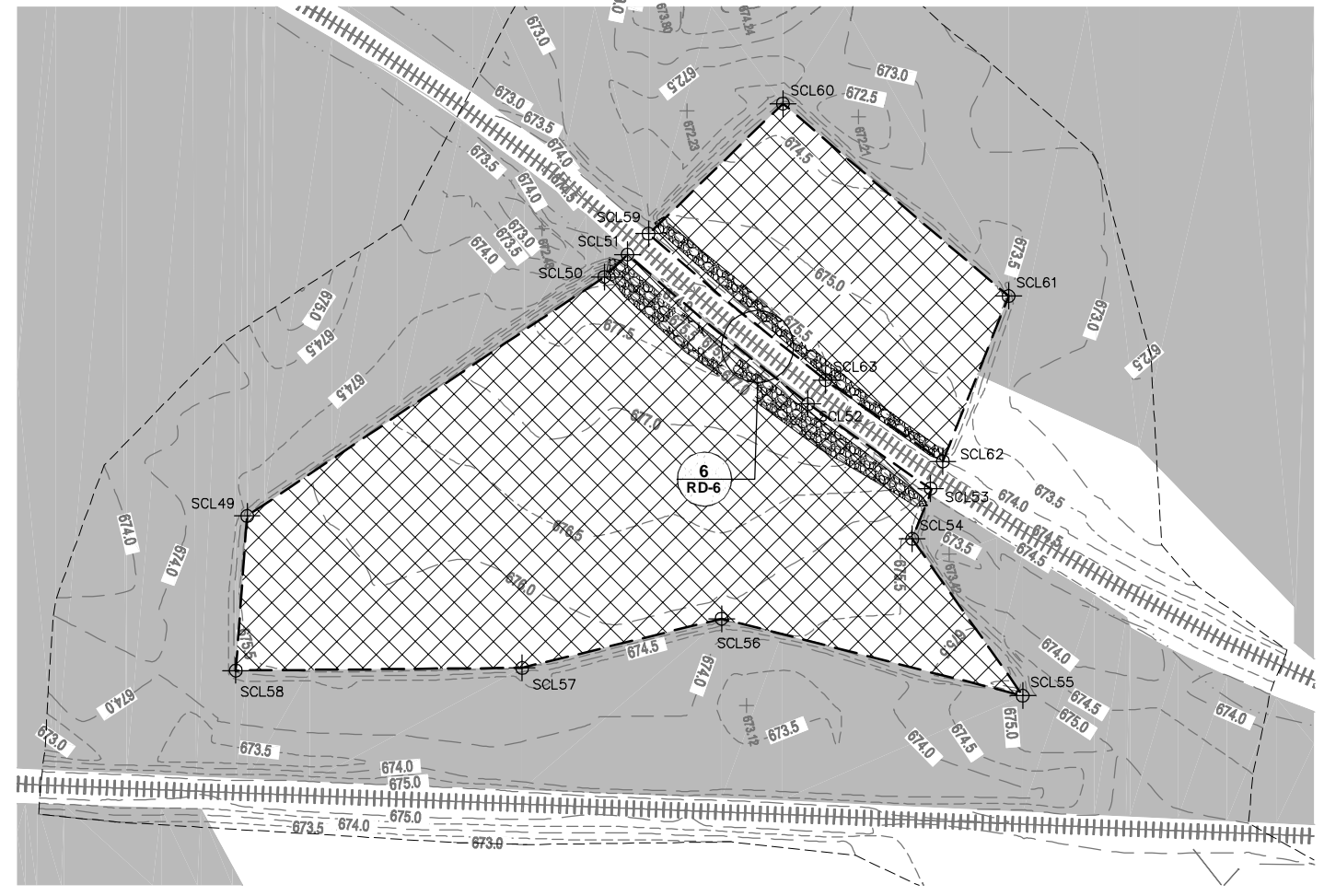


KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
**SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM**  
**POST CONSTRUCTION LAYOUT -**  
**AREAS A1, A2, F1 & F2**

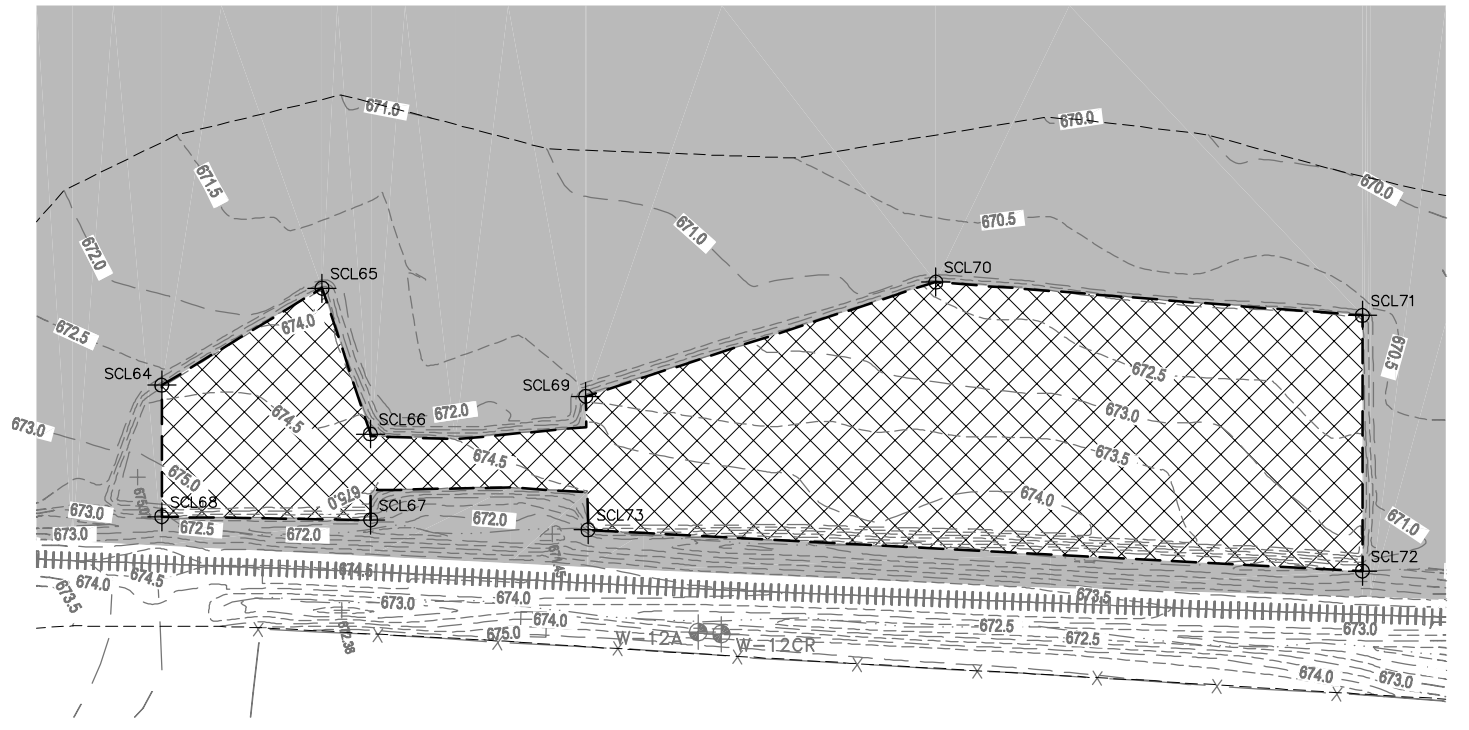
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B0039231  
Date  
AUGUST 2011  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**RD-3**

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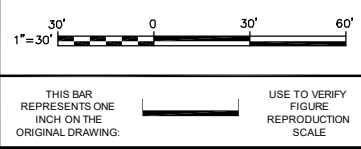
**AREA H**  
SCALE: 1" = 30'



**AREA S1 & S2**  
SCALE: 1" = 30'

**LEGEND:**

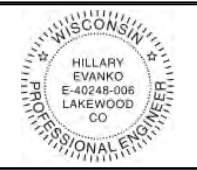
- MONITORING WELL
- SURFACE COVER LIMIT MARKER
- LIMIT OF 1' SURFACE COVER
- LIMIT OF AS-BUILT SURVEY
- WETLAND AREA
- WATER COURSE
- 675 ELEVATION CONTOUR
- +675 SPOT ELEVATION
- RAILROAD LINES
- CLAY VEGETATED SURFACE COVER WITH STONE BRIDGING (SEE DETAIL 4, DRAWING RD-6)



No.	Date	Revisions	By	Ckd
0	09/11	AS-BUILTS	HSI	HME

USE TO VERIFY FIGURE REPRODUCTION SCALE

Professional Engineer's Name  
**HILLARY EVANKO**  
Professional Engineer's No.  
40248-006  
State: \_\_\_\_\_ Date Signed: \_\_\_\_\_ Project Mgr.: \_\_\_\_\_  
Designed by: HME Drawn by: HSI Checked by: TEH



KOPPERS INC. FACILITY, BEAZER EAST INC. • SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**POST CONSTRUCTION LAYOUT - AREAS H, S1 & S2**

ARCADIS Project No.  
B0039231  
Date  
AUGUST 2011  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**RD-4**



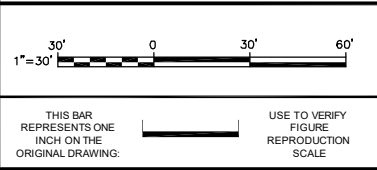
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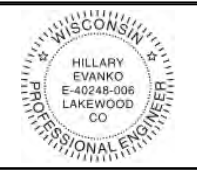
- LEGEND:**
- MONITORING WELL
  - SURFACE COVER LIMIT MARKER
  - KOPPERS INC. FACILITY PROPERTY BOUNDARY
  - LIMIT OF 1' SURFACE COVER
  - LIMIT OF AS-BUILT SURVEY
  - WETLAND AREA
  - WATER COURSE
  - OH OVERHEAD POWER LINE (APPROXIMATE)
  - 675 ELEVATION CONTOUR
  - + 675 SPOT ELEVATION
  - RAILROAD LINES
  - CLAY VEGETATED SURFACE COVER WITH STONE BRIDGING (SEE DETAIL 4, DRAWING RD-6)



No.	Date	Revisions	By	Ckd
0	09/11	AS-BUILTS	HSI	HME

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Professional Engineer's No.  
40248-006  
State: \_\_\_\_\_ Date Signed: \_\_\_\_\_ Project Mgr.: \_\_\_\_\_  
Designed by: HME Drawn by: HSI Checked by: TEH

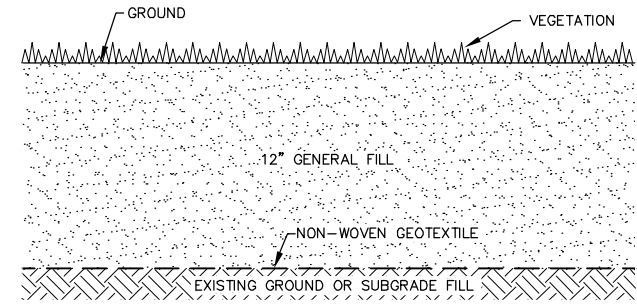


KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**FINAL GRADING PLAN - AREA G**

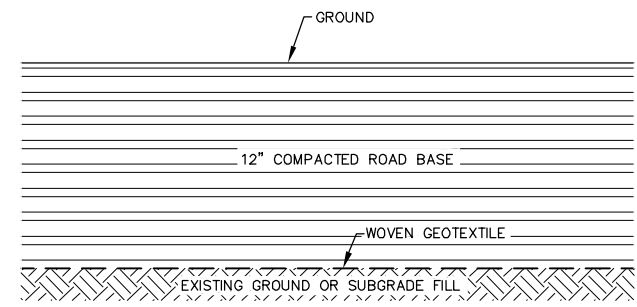
ARCADIS Project No.  
B0039231  
Date  
AUGUST 2011  
ARCADIS U.S. INC.  
2929 BRIARPARK DRIVE  
SUITE 300  
HOUSTON, TX 77042  
713-953-4800

**RD-5**

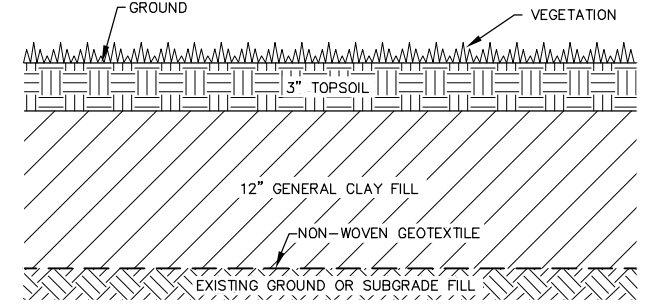
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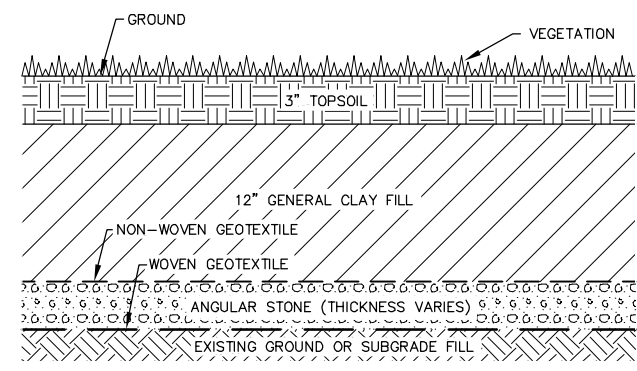
**TYPICAL VEGETATED SURFACE COVER**  
 NOT TO SCALE  
 1 RD-2 1 RD-3 1 RD-4



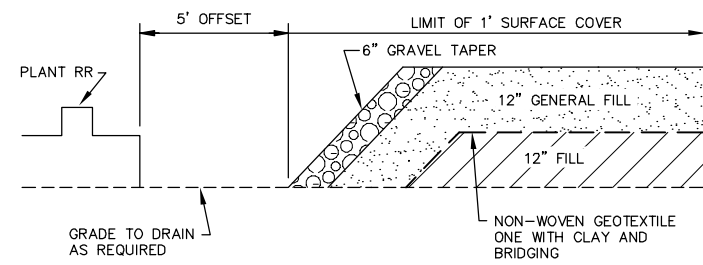
**TYPICAL ROAD BASE SURFACE COVER**  
 NOT TO SCALE  
 2 RD-2 2 RD-3



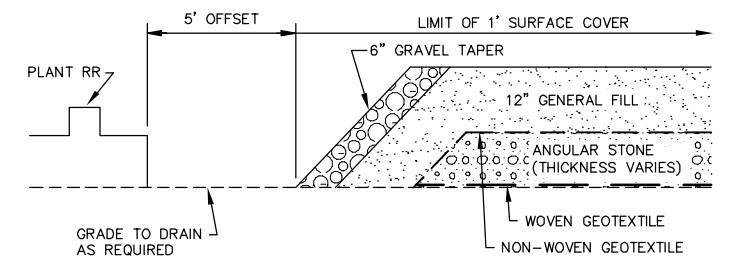
**TYPICAL CLAY VEGETATED SURFACE COVER**  
 NOT TO SCALE  
 3 RD-2 3 RD-3



**TYPICAL CLAY VEGETATED SURFACE COVER WITH STONE BRIDGING**  
 NOT TO SCALE  
 4 RD-4 4 RD-5



**AREA B FILL AREAS ADJACENT TO RAILROAD**  
 NOT TO SCALE  
 5 RD-2



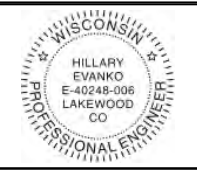
**AREAS G AND H FILL AREAS ADJACENT TO RAILROAD**  
 NOT TO SCALE  
 6 RD-4 6 RD-5

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.  
 USE TO VERIFY FIGURE REPRODUCTION SCALE.

No.	Date	Revisions	By	Ckd
0	09/11	AS-BUILTS	HSI	HME

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Professional Engineer's Name  
**HILLARY EVANKO**  
 Professional Engineer's No.  
 40248-006  
 State: Date Signed: Project Mgr:  
 Designed by: Drawn by: Checked by:  
 HME HSI TEH



KOPPERS INC. FACILITY, BEAZER EAST INC., SUPERIOR, WISCONSIN  
 SURFACE COVERS AND OUTFALL 001 DRAINAGE DITCH LINER SYSTEM  
**POST CONSTRUCTION SURFACE COVER DETAILS**

ARCADIS Project No.  
 B0039231  
 Date  
 AUGUST 2011  
 ARCADIS U.S. INC.  
 2929 BRIARPARK DRIVE  
 SUITE 300  
 HOUSTON, TX 77042  
 713-953-4800

**RD-6**









## **Appendix G**

Well/Drillhole/Borehole Filling &  
Sealing Forms



ARCADIS U.S., Inc.  
6602 Excelsior Road  
Baxter  
Minnesota 56425  
Tel 218.829.4607  
[www.arcadis-us.com](http://www.arcadis-us.com)

Mr. Christopher Saari  
Wisconsin Department of Natural Resources  
2501 Golf Course Road  
Ashland, WI 54806

Subject:  
Koppers Inc. Superior, WI Facility – Monitoring Well Abandonment Forms

ENVIRONMENTAL

Dear Mr. Saari:

On July 13, 2010, monitoring wells W-16A and W-17A at the above-referenced Site were abandoned. As discussed in the *On-Property Corrective Measures Implementation Design Report* (ARCADIS, December 2009) and a July 2, 2010 letter from Beazer East, Inc. (Beazer) to the Wisconsin Department of Natural Resources (WDNR), these wells were abandoned in preparation for the on-property Corrective Measures Implementation (CMI) activities. As required per NR 141.25, copies of the completed Well/Drillhole/Borehole Filling & Sealing Forms are being submitted to the WDNR as attachments to this letter.

Date:  
August 25, 2010

Contact:  
David Bessingpas

Phone:  
218.829.4607

Email:  
[david.bessingpas@arcadis-us.com](mailto:david.bessingpas@arcadis-us.com)

Please feel free to contact me with any questions or comments.

Sincerely,

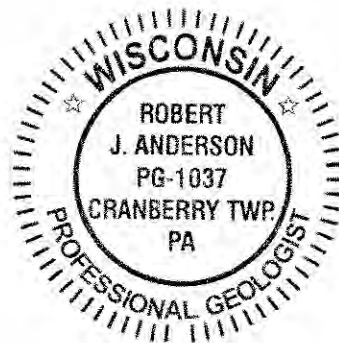
Our ref:  
B0039217.0000.00001

ARCADIS U.S., Inc.

David Bessingpas  
Sr. Project Manager

Robert J. Anderson  
Vice President, WI PG 1037

Copies:  
Steve Ashenbrucker, WDNR  
Jane Patarcity, Beazer  
Hank Pappert, FTS  
Jeffrey Holden, ARCADIS



Imagine the result

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

Drinking Water       Watershed/Wastewater       Remediation/Redevelopment

Waste Management       Other: \_\_\_\_\_

<b>1. Well Location Information</b>				<b>2. Facility / Owner Information</b>			
County <i>Douglas</i>		WI Unique Well # of Removed Well		Hicap #		Facility Name <i>Koppen</i>	
Latitude / Longitude (Degrees and Minutes) <i>46° 38' 91" N</i> <i>92° 04' 05" 3" W</i>				Method Code (see instructions) <i>GPS006</i>			
Facility ID (FID or PWS) <i>816009810</i>		License/Permit/Monitoring # <i>W-16A</i>		Original Well Owner <i>Koppens</i>		Present Well Owner <i>Koppen</i>	
Well Street Address <i>3155 S County Rd A</i>		Well City, Village or Town <i>Superior</i>		Well ZIP Code <i>54880</i>		Mailing Address of Present Owner <i>3155 S. County Road A</i>	
Subdivision Name		Lot #		City of Present Owner <i>Superior</i>		State WI ZIP Code <i>54880</i>	

Reason For Removal From Service: **Located in pending construction area**

WI Unique Well # of Replacement Well: \_\_\_\_\_

<b>3. Well / Drillhole / Borehole Information</b>				<b>4. Pump, Liner, Screen, Casing &amp; Sealing Material</b>			
<input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Borehole / Drillhole		Original Construction Date (mm/dd/yyyy) <i>07/20/1990</i>		Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (specify): _____		If a Well Construction Report is available, please attach. <b>Attached</b>		Screen removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		Casing left in place? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Total Well Depth From Ground Surface (ft.) <i>11'</i>		Casing Diameter (in.) <i>2"</i>		Was casing cut off below surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Lower Drillhole Diameter (in.) <i>4 1/4"</i>		Casing Depth (ft.) <i>11'</i>		Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Was well annular space grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		If yes, to what depth (feet)? <i>2'</i>		Depth to Water (feet) <i>1'</i>		If bentonite chips were used, were they hydrated with water from a known safe source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Required Method of Placing Sealing Material: <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____		Sealing Materials: <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips		For Monitoring Wells and Monitoring Well Boreholes Only: <input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry			

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<i>Native</i>	Surface	<i>1'</i>		
<i>Koloplus 3/4"</i>	<i>1'</i>	<i>11'</i>	<i>1/3</i>	<i>Bag</i>

**6. Comments**

<b>7. Supervision of Work</b>				<b>DNR Use Only</b>	
Name of Person or Firm Doing Filling & Sealing <i>Deart Langyear</i>		License # <i>6189</i>	Date of Filling & Sealing (mm/dd/yyyy) <i>07/13/2010</i>	Date Received	Noted By
Street or Route <i>901 D Grossman Drive</i>		Telephone Number <i>(715) 571-4832</i>		Comments	
City <i>Schofield</i>	State <i>WI</i>	ZIP Code <i>54476</i>	Signature of Person Doing Work <i>[Signature]</i>	Date Signed <i>7-16-10</i>	





# WELL LOG : W - 16A

BB-16

**PROJECT:** Superior Phase II RFI

**LOCATION:** Superior, Wisconsin

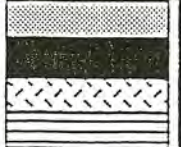
Drilling Method: 4 1/4" ID Hollow Stem Auger  
 Driller: WTD Environmental Drilling, Inc..

Geologist: R. North  
 Date : July 20, 1990

Ground Elevation: 672.75'  
 Top of Well Elev.: 675.15'  
 Depth of Well: 13'

Sample Collection  
 G-grab      T-shelby tube  
 S-splitspoon   C-rock core

GRAVEL PACK  
 BENTONITE  
 GROUT  
 SCREEN



Casing Material: 2" PVC  
 Screen: 2" PVC (0.010 slot)

Depth	Sample	SPT Blow Counts	Description	Construction
5			SEE LOG BB-16 FOR GEOLOGIC DESCRIPTION	
10				
15			BOTTOM OF BORING 14'	
20				

**Well / Drillhole / Borehole Filling & Sealing**

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

**Verification Only of Fill and Seal**

**Route to:**

Drinking Water       Watershed/Wastewater       Remediation/Redevelopment

Waste Management       Other: \_\_\_\_\_

**1. Well Location Information**      **2. Facility / Owner Information**

County <i>Douglas</i>	WI Unique Well # of Removed Well _____	Hicap # _____	Facility Name <i>Koppens</i>
Latitude / Longitude (Degrees and Minutes) <i>46° 38' 89" N</i>	Method Code (see instructions) <i>CP5006</i>	Facility ID (FID or PWS) <i>816009810</i>	License/Permit/Monitoring # <i>W-174</i>
<i>92° 04' 02" W</i>	Section _____	Township <i>N</i>	Range <input type="checkbox"/> E <input type="checkbox"/> W <i>N</i>
Well Street Address <i>3185 S County Rd A</i>	Well City, Village or Town <i>Superior</i>	Well ZIP Code <i>54880</i>	Original Well Owner <i>Koppens</i>
Subdivision Name _____	Lot # _____	City of Present Owner <i>Superior</i>	State <i>WI</i>
Reason For Removal From Service <i>Located in pending construction area</i>	WI Unique Well # of Replacement Well _____	ZIP Code <i>54880</i>	Present Well Owner <i>Koppens</i>

**3. Well / Drillhole / Borehole Information**      **4. Pump, Liner, Screen, Casing & Sealing Material**

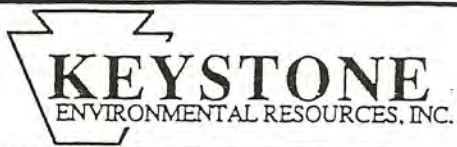
<input checked="" type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) <i>07/23/1990</i>	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach. <b>Attached</b>	Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Borehole / Drillhole		Screen removed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug		Casing left in place? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Was casing cut off below surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Total Well Depth From Ground Surface (ft.) <i>14.6</i>	Casing Diameter (in.) <i>2"</i>	Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Lower Drillhole Diameter (in.) <i>4 1/4"</i>	Casing Depth (ft.) <i>14.6</i>	Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Was well annular space grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If yes, to what depth (feet)? <i>2'</i>	Depth to Water (feet) <i>2.1'</i>	If bentonite chips were used, were they hydrated with water from a known safe source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<i>Native</i>	Surface	<i>1'</i>		
<i>Hottap plug 3/8"</i>	<i>1'</i>	<i>14.6</i>	<i>1/2</i>	<i>Bag</i>

**6. Comments**

\_\_\_\_\_

<b>7. Supervision of Work</b>			<b>DNR Use Only</b>	
Name of Person or Firm Doing Filling & Sealing <i>Boart Longyear</i>	License # <i>6189</i>	Date of Filling & Sealing (mm/dd/yyyy) <i>07/13/2010</i>	Date Received	Noted By
Street or Route <i>901 D Grossman Drive</i>		Telephone Number <i>(715) 571-4832</i>	Comments	
City <i>Schofield</i>	State <i>WI</i>	ZIP Code <i>54476</i>	Signature of Person Doing Work <i>[Signature]</i>	Date Signed <i>7-16-10</i>



WELL LOG : W - 17A  
BB-9

PROJECT: Superior Phase II RFI      LOCATION: Superior, Wisconsin

Drilling Method: 4 1/4" Hollow Stem Auger      Geologist: R. North  
Driller: WTD Environmental Drilling, Inc.      Date: July 23, 1990

Ground Elevation: 673.91' Top of Well Elev.: 673.46' Depth of Well: 14.5'	<u>Sample Collection</u>	GRAVEL PACK BENTONITE GROUT SCREEN	
	G-grab      T-shelby tube S-splitspoon      C-rock core		
Casing Material: 2" PVC Screen: 2" PVC (0.010 slot)			

Depth	Sample	SPT Blow Counts	Description	Construction
5			SEE LOG BB-9 FOR GEOLOGIC DESCRIPTION	
10				
15			BOTTOM OF BORING 15'	
20				



## **Appendix H**

Erosion and Sediment Control  
Inspection Forms

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 8/14/10 Weather Conditions: CLEAR & SUNNY

Inspector Name and Organization: COLE PAESNER / AZ-LADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 0 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: 8/13/10  
 Monthly Inspection (after construction is completed)

YES NA NO

General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Action Items:

\* SOME AREAS NEED TO BE TIGHTENED OR BURIED BETTER. GC IS AWARE OF THIS AND WILL MAKE ADJUSTMENTS.

\* SILT FENCE LOCATION MAY BE ALTERED BASED ON FIELD CONDITIONS

\*

Photographs: Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;

Modifications to the E&SCP:

\* SILT FENCE LOCATION IN AREA A ALTERED SLIGHTLY DUE TO WET CONDITIONS ON AREA BOUNDARIES. SILT FENCE IS IN PLACE & INSTALLED CORRECTLY

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.
Koppers Inc. Facility
Superior, Wisconsin

Inspection Date: 8/19/2010 Weather Conditions: SUNNY & CLEAR, MID 50's

Inspector Name and Organization: COLE RAESNER / ARCADIS Inspector Signature: [Signature]

Check one of the following: [X] Weekly Inspection (during construction) Stage of Construction: <10% complete
[X] Rain Event Inspection (greater than 0.5") Date of Rain Event: 8/18/2010
[ ] Monthly Inspection (after construction is completed)

Y NA N

General Housekeeping

- [ ] [ ] [X] Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
[X] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease? \* SEE NOTE 2
[X] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [X] Is construction impacting the adjacent property?
[X] [ ] [ ] Is dust adequately controlled?

Sediment Control

- [X] [ ] [ ] Sediment control practices are located and installed correctly.
[X] [ ] [ ] BMPs are maintained per specifications
[X] [ ] [ ] Stockpiles are stabilized and contained.
[X] [ ] [ ] De-watering operations prevent direct discharges to sensitive features.
[ ] [X] [ ] Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- [X] [ ] [ ] Work is within the limits of the approved plans, including clearing.
[X] [ ] [ ] Adverse impacts - ponds, streams, wetlands and sinkholes are free of sediment from site.
[X] [ ] [ ] Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- [X] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[X] [ ] [ ] Installed per standards and specifications?
[X] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[X] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- [X] [ ] [ ] Installed on contour \* SEE NOTE 1
[X] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[X] [ ] [ ] Fabric buried 6 inches minimum.
[X] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Action Items:

NOTE 1 = ONE PORTION OF SILT FENCE PERPENDICULAR TO CONTOUR DUE TO SMALL DRAIN.

NOTE 2 = FILM ON WATER IS ONLY IN SMALL DISTURBED AREAS - FROM SOIL.

\* FIXED SILT FENCE ISSUES (-BOW<sup>EX</sup> SAGGING, SOIL EROSION NEAR FENCE) CAUSED BY STORM EVENT.

\* NO SILT FENCE IN AREA F1) BECAUSE NO CONSTRUCTION THERE & HIGH TRAFFIC DUE TO ROAD. WILL INSTALL FENCE WHEN READY FOR CONSTRUCTION.

Photographs: Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;

Modifications to the E&SCP:

\* RE ROUTED SMALL SECTION IN AREA B DUE TO SMALL DRAINAGE PATH. WHICH WAS ORIGINALLY NOT KNOWN TO EXIST.

\* SAME AS PREVIOUS INSPECTION FORM.



Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 8/27/10 Weather Conditions: CLEAR, SUNNY

Inspector Name and Organization: AARON GEYER ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 20 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

YES NO N/A

General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Action Items:

\* SILT FENCE IN AREA B NOT BURIED PROPERLY DUE TO STANDING WATER

\* SILT FENCE MUST CROSS SHALLOW WATER SHEDS IN AREAS G, H AND B

Photographs: Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;

Modifications to the E&SCP:

\* SILT FENCE IN AREA B BURIED NOW THAT WATER HAS DRIED UP

\* HAY BALE ADDED TO CULVERT IN AREA F1

\* ADDITIONAL HAY BALES ORDERED TO USE IN WATER SHED AREAS AS DITCH BREAKS

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 9/2/2010 Weather Conditions: CLOUDY, 70°F, Light RAIN (INTERMITTENT)

Inspector Name and Organization: Aaron M Geyer ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 25 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: 9/2/2010  
 Monthly Inspection (after construction is completed)

YES No N/A  
General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Action Items:

\* SOME SILT FENCE SAGGING

Photographs: Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;

Modifications to the E&SCP:

\* FIX SILT FENCE

\* ADDED HAY BALES TO SUPPLEMENT SILT FENCE IN  
AREAS G, H, S2, AND B

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 9/10/2010 Weather Conditions: Cloudy, 60°F.

Inspector Name and Organization: COLE RAESNER / ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 30 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Yes No NA

General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

\* NONE

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**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

\* NONE.

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Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 9/16/2010 Weather Conditions: CLOUDY, 48°F, SLIGHTLY WINDY

Inspector Name and Organization: COLE RAESNER/NRCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 33 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: 9/15/2010  
 Monthly Inspection (after construction is completed)

**General Housekeeping**

- |                                     |                                     |                          |  |
|-------------------------------------|-------------------------------------|--------------------------|--|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?                                |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is there residue from oil and floating substances, visible oil film, or globules or grease?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained? |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is construction impacting the adjacent property?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is dust adequately controlled?   |

**Sediment Control**

- |                                     |                          |                                     |  |
|-------------------------------------|--------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Sediment control practices are located and installed correctly.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | BMPs are maintained per specifications   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Stockpiles are stabilized and contained.   |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | De-watering operations prevent direct discharges to sensitive features.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.) |

**Adverse Impacts or Off-Site Degradation**

- |                                     |                          |                          |  |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Work is within the limits of the approved plans, including clearing.                                     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust). |

**Stone Tracking Pad**

- |                                     |                          |                          |   |
|-------------------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Stone is clean enough to effectively remove mud from vehicles.        |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Installed per standards and specifications?                           |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Does all traffic use the stabilized entrance to enter and leave site? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is adequate drainage provided to prevent ponding at entrance?         |

**Silt Fence**

- |                                     |                          |                          |  |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Installed on contour   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Joints constructed by wrapping the two ends together for continuous support. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Fabric buried 6 inches minimum.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Posts are stable, fabric is tight and without rips or frayed areas.          |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | Sediment accumulation is <u>0</u> % of design capacity.                      |

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

\* SILT FENCE WAS CHECKED FOR WASH OUTS OR OTHER ISSUES  
- NONE FOUND.

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

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\_\_\_\_\_  
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\_\_\_\_\_



Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 9/22/2010 Weather Conditions: CLEAR, SUNNY, 40° F

Inspector Name and Organization: COLE RAESNER / ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 40 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA

General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

\* NONE

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**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

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Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 9/30/10 Weather Conditions: Partly Cloudy, 65°

Inspector Name and Organization: Aaron Meyer ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 50 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N N/A  
General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

NONE

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

NONE

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 10/8/10 Weather Conditions: Sunny, 74°F

Inspector Name and Organization: Aaron Grege ARCAD Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 50 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

**General Housekeeping**

- |                                     |                                     |                          |  |
|-------------------------------------|-------------------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?                                |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is there residue from oil and floating substances, visible oil film, or globules or grease?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained? |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is construction impacting the adjacent property?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is dust adequately controlled?   |

**Sediment Control**

- |                                     |                          |                                     |  |
|-------------------------------------|--------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Sediment control practices are located and installed correctly.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | BMPs are maintained per specifications   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Stockpiles are stabilized and contained.   |
| <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | De-watering operations prevent direct discharges to sensitive features.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.) |

**Adverse Impacts or Off-Site Degradation**

- |                                     |                          |                          |  |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Work is within the limits of the approved plans, including clearing.                                     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust). |

**Stone Tracking Pad**

- |                                     |                          |                          |   |
|-------------------------------------|--------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Stone is clean enough to effectively remove mud from vehicles.        |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Installed per standards and specifications?                           |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Does all traffic use the stabilized entrance to enter and leave site? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is adequate drainage provided to prevent ponding at entrance?         |

**Silt Fence**

- |                                     |                          |                          |  |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Installed on contour   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Joints constructed by wrapping the two ends together for continuous support. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Fabric buried 6 inches minimum.  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Posts are stable, fabric is tight and without rips or frayed areas.          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sediment accumulation is <u>0</u> % of design capacity.                      |

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

NONE

**Photographs:** Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;

**Modifications to the E&SCP:**

NONE

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.
Koppers Inc. Facility
Superior, Wisconsin

Inspection Date: 10/23/2010 Weather Conditions: CLOUDY, WINDY, 48° F.

Inspector Name and Organization: COLE RAESNEP / ARCADIS Inspector Signature: [Signature]

Check one of the following: [X] Weekly Inspection (during construction) Stage of Construction: 55% complete
Rain Event Inspection (greater than 0.5") Date of Rain Event:
Monthly Inspection (after construction is completed)

Yes No NA

General Housekeeping

- [ ] [X] [ ] Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
[ ] [X] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?
[X] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [X] [ ] Is construction impacting the adjacent property?
[X] [ ] [ ] Is dust adequately controlled?

Sediment Control

- [X] [ ] [ ] Sediment control practices are located and installed correctly.
[X] [ ] [ ] BMPs are maintained per specifications
[X] [ ] [ ] Stockpiles are stabilized and contained.
[X] [ ] [ ] De-watering operations prevent direct discharges to sensitive features.
[X] [ ] [ ] Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- [X] [ ] [ ] Work is within the limits of the approved plans, including clearing.
[X] [ ] [ ] Adverse impacts - ponds, streams, wetlands and sinkholes are free of sediment from site.
[X] [ ] [ ] Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- [X] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[X] [ ] [ ] Installed per standards and specifications?
[X] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[X] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- [X] [ ] [ ] Installed on contour
[X] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[X] [ ] [ ] Fabric buried 6 inches minimum.
[X] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[X] [ ] [ ] Sediment accumulation is \_\_\_% of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

*NONE*

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**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

*NONE*

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Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 10/30/10 Weather Conditions: CLEAR, SUNNY, 49° F

Inspector Name and Organization: COLE ROESNER / ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 80 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA  
**General Housekeeping**

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

**Sediment Control**

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

**Adverse Impacts or Off-Site Degradation**

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

**Stone Tracking Pad**

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

**Silt Fence**

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 10% of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Action Items:

NONE

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Photographs: Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

Modifications to the E&SCP:

NONE

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Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 11/3/10 Weather Conditions: Cloudy, Windy, 50°F

Inspector Name and Organization: COLE RAESCHER/ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 85 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA  
**General Housekeeping**

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

**Sediment Control**

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

**Adverse Impacts or Off-Site Degradation**

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

**Stone Tracking Pad**

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

**Silt Fence**

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 10 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

NONE

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**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

NONE

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Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 11/10/10 Weather Conditions: PARTLY CLOUDY, WINDY, 45°F

Inspector Name and Organization: COLE RAESNER/ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 85 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA  
**General Housekeeping**

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

**Sediment Control**

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

**Adverse Impacts or Off-Site Degradation**

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

**Stone Tracking Pad**

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

**Silt Fence**

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 10 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Action Items:

\* HAVE SES REMOVE SEDIMENT BUILD UP IN SE AREA B  
NEAR DRAINAGE DITCH.

Photographs: Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;  
Photo: \_\_\_\_\_;

Modifications to the E&SCP:

NONE.

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 11/16/2010 Weather Conditions: Cloudy, Cold

Inspector Name and Organization: COLE RAESNER / ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 80 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA

General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 10 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

NONE.

**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

NONE.



Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 11/22/200 Weather Conditions: Cold, Cloudy, SNOW

Inspector Name and Organization: COLE RAESNER / ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 90 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA  
**General Housekeeping**

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

**Sediment Control**

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

**Adverse Impacts or Off-Site Degradation**

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

**Stone Tracking Pad**

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

**Silt Fence**

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 10 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

NONE

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_  
Photo: \_\_\_\_\_ ; \_\_\_\_\_  
Photo: \_\_\_\_\_ ; \_\_\_\_\_  
Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Modifications to the E&SCP:**

NONE

Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 12/2/10 Weather Conditions: Cloudy, Cold, light snow

Inspector Name and Organization: Arcon Geyer ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 95 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

Y N NA  
**General Housekeeping**

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

**Sediment Control**

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

**Adverse Impacts or Off-Site Degradation**

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

**Stone Tracking Pad**

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

**Silt Fence**

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is \_\_\_% of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

*None*

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**Photographs:** Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_  
Photo: \_\_\_\_\_; \_\_\_\_\_

**Modifications to the E&SCP:**

*None*

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Erosion and Sediment Control Measures Inspection Form

Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

Inspection Date: 12/8/10 Weather Conditions: CLEAR, COLD

Inspector Name and Organization: Aaron M Geyer ARCADIS Inspector Signature: [Signature]

Check one of the following:  Weekly Inspection (during construction) Stage of Construction: 98 % complete  
 Rain Event Inspection (greater than 0.5") Date of Rain Event: \_\_\_\_\_  
 Monthly Inspection (after construction is completed)

General Housekeeping

- Is there an increase in turbidity that will cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

Sediment Control

- Sediment control practices are located and installed correctly.
- BMPs are maintained per specifications
- Stockpiles are stabilized and contained.
- De-watering operations prevent direct discharges to sensitive features.
- Construction Schedule - Are clearing and grading operations divided into stages for large areas (i.e. greater than 2 acres), as opposed to mass grading? (NOTE: If staged, erosion control measures may also need to be staged.)

Adverse Impacts or Off-Site Degradation

- Work is within the limits of the approved plans, including clearing.
- Adverse impacts – ponds, streams, wetlands and sinkholes are free of sediment from site.
- Off-site degradation - sediment is kept out of roadways, adjacent property, storm sewers, or air (dust).

Stone Tracking Pad

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

Silt Fence

- Installed on contour
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Posts are stable, fabric is tight and without rips or frayed areas.
- Sediment accumulation is 0 % of design capacity.

Erosion and Sediment Control Measures Inspection Form  
Beazer East, Inc.  
Koppers Inc. Facility  
Superior, Wisconsin

**Action Items:**

- ~~FIX~~ FIX SILT FENCE AT AREA A

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**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_  
Photo: \_\_\_\_\_ ; \_\_\_\_\_  
Photo: \_\_\_\_\_ ; \_\_\_\_\_  
Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Modifications to the E&SCP:**

- APPLY STRAW ATOP AREA A SURFACE AREA

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## **Appendix I**

Compaction Test Results

**APPENDIX I  
SUMMARY OF COMPACTION TEST LOCATIONS**

**ON-PROPERTY CORRECTIVE MEASURES  
KOPPERS INC. FACILITY  
SUPERIOR, WI**

<b>Nuclear Density Test No.</b>	<b>Location Description</b>
1	F2 Final Grade
2	F2 Final Grade
3	F1 Final Grade
4	F1 Final Grade
5	Area B Vegetated Subgrade
6	Area B Vegetated Subgrade
7	Area B Vegetated Subgrade
8	Area B Vegetated Subgrade
9	Area B Road Base Final Grade
10	Area B Road Base Subgrade
11	Area B Road Base Subgrade
12	Area B Road Base Final Grade
13	Area B Vegetated Final Grade
14	Area B Vegetated Final Grade
15	Area B Vegetated Final Grade





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**Project** Koppers Site  
**Client** ARCADIS US INC.

**TPT Job No.** 10M5484  
**Technician** Paul Gionfriddo

Page 1 of 1

**Material Source** On-site stockpile  
**Copies To**

**Date** 08/27/10

Test Number	1	2	3	4
Grid Line or Reference Point	F-1	F-2	F-1	F-1

**Distance**

**Elevation**

<b>Mode and Depth</b>	12"	12"	12"	12"
-----------------------	-----	-----	-----	-----

<b>Wet Density</b>	150.4	150.6	144.6	153.3
<b>Dry Density</b>	144.3	145.3	139.3	147.0
<b>Moisture %</b>	6.1	5.4	5.3	6.3
<b>Optimum Moisture</b>	7.8	7.8	7.8	7.8
<b>Maximum Density</b>	148.2	148.2	148.2	148.2
<b>Moisture Correction</b>				

<b>% Compaction</b>	97.4	98.0	94.0	98.2
---------------------	------	------	------	------

**Remarks** Specifications require 90% of Standard Proctor.

**Reviewed By** \_\_\_\_\_ **Date** \_\_\_\_\_



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**Project** Koppers Site  
**Client** ARCADIS US INC.

**TPT Job No.** 10M5484 Page 1 of 1  
**Technician** Paul Gionfriddo  
**Date** 10/06/10

**Material Source** On site Clay  
**Copies To**

Test Number	5	6
Grid Line or Reference Point	Between W-15 and W-16	W-17

**Distance**

<b>Elevation</b>	671.25'	671.25'
------------------	---------	---------

<b>Mode and Depth</b>	12"	12"
-----------------------	-----	-----

<b>Wet Density</b>	119.2	120.3
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<b>Dry Density</b>	95.9	94.7
--------------------	------	------

<b>Moisture %</b>	24.3	26.9
-------------------	------	------

<b>Optimum Moisture</b>	28.2	28.2
-------------------------	------	------

<b>Maximum Density</b>	92.3	92.3
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**Moisture Correction**

<b>% Compaction</b>	103.9	102.6
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**Remarks** Specifications require 90% of Modified Proctor.

**Reviewed By** \_\_\_\_\_

**Date** \_\_\_\_\_

**Project** Koppers Site  
**Client** ARCADIS US INC.  
**Material Source** On site  
**Copies To**

**TPT Job No.** 10M5484  
**Technician** GAP  
**Date** 10/21/10

Page 1 of 1

Test Number	7	8
<b>Grid Line or Reference Point</b>	Area B north end	Area B center
<b>Distance</b>	10'W of train tracks	13'W of train tracks
<b>Elevation</b>	Top of subgrade	Top of subgrade
<b>Mode and Depth</b>	4"	4"
<b>Wet Density</b>	117.6	114.9
<b>Dry Density</b>	91.1	87.6
<b>Moisture %</b>	29.3	31.2
<b>Optimum Moisture</b>	28.2	28.2
<b>Maximum Density</b>	92.3	92.3
<b>Moisture Correction</b>		
<b>% Compaction</b>	98.0	95.0

**Remarks** Specifications require 90% of Modified Proctor.

Reviewed By \_\_\_\_\_

Date \_\_\_\_\_

**Project** Koppers Site

**TPT Job No.** 10M5484

Page 1 of 2

**Client** ARCADIS US INC.

**Technician** Gregg Patterson

**Material Source** On site

**Date** 11/01/10

**Copies To**

Test Number	9	10	11	12	13
<b>Grid Line or Reference Point</b>	Entrance road #1	Road subgrade #2	Road subgrade #2	Entrance road #2	Vegetated #1
<b>Distance</b>	100'W of entrance			200'W of entrance	
<b>Elevation</b>	Top of aggregate base	Top of subgrade	Top of subgrade	Top of subgrade	Final grade
<b>Mode and Depth</b>	12"	12"	12"	10"	12"
<b>Wet Density</b>	151.2	111.0	98.3	155.3	134.2
<b>Dry Density</b>	143.4	96.3	76.2	147.6	121.7
<b>Moisture %</b>	5.4	15.3	29.1	5.2	10.3
<b>Optimum Moisture</b>	7.8	19.3	19.3	7.8	10.3
<b>Maximum Density</b>	148.2	80.5	80.5	148.2	117.5
<b>Moisture Correction</b>					
<b>% Compaction</b>	96.8	119.6	94.6	99.6	103.6

**Remarks** Specifications require 90% of Standard Proctor.

**Project** Koppers Site  
**Client** ARCADIS US INC.

**TPT Job No.** 10M5484 Page 2 of 2

**Technician** Gregg Patterson

**Material Source** On site

**Date** 11/01/10

**Copies To**

<b>Test Number</b>	<b>14</b>	<b>15</b>
<b>Grid Line or Reference Point</b>	Vegetated #2	Vegetated #3

**Distance**

<b>Elevation</b>	Final grade	Final grade
------------------	-------------	-------------

<b>Mode and Depth</b>	4"	12"
-----------------------	----	-----

<b>Wet Density</b>	127.1	129.9
--------------------	-------	-------

<b>Dry Density</b>	111.3	115.2
--------------------	-------	-------

<b>Moisture %</b>	14.2	12.8
-------------------	------	------

<b>Optimum Moisture</b>	10.3	10.3
-------------------------	------	------

<b>Maximum Density</b>	117.5	117.5
------------------------	-------	-------

**Moisture Correction**

<b>% Compaction</b>	94.8	98.0
---------------------	------	------

**Remarks** Specifications require 90% of Standard Proctor.

Reviewed By



Date 11-1-10



## **Appendix J**

Operation and Maintenance Plan

**Beazer East, Inc.**

**Operation and Maintenance Plan  
On-Property Corrective Measures  
Implementation**

Koppers Inc. Facility  
Superior, Wisconsin

December 2009  
Revised September 2011



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Hillary Evanko, P.E.  
Wisconsin P.E. No. 40248-006

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Jeffrey Holden  
Principal Engineer/Program Manager

---

David Bessingpas  
Project Manager

**Operation and Maintenance Plan  
On-Property Corrective Measures  
Implementation**

Koppers Inc. Facility  
Superior, Wisconsin

Prepared for:  
Beazer East, Inc.

Prepared by:  
ARCADIS  
1687 Cole Blvd.  
Suite 200  
Lakewood  
Colorado 80401  
Tel 303.231.9115  
Fax 303.231.9571

Our Ref.:  
39165

Date:  
December 2009  
Revised September 2011



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A Site Inspection Form	

## 1. Introduction

This Operation and Maintenance Plan (O&M Plan) was prepared to detail the long-term monitoring and maintenance of the Resource Conservation and Recovery Act (RCRA) corrective actions that were completed to address impacted soils and ditch sediments within the Koppers Inc. (KI) Facility property in Superior, Wisconsin (the on-property portion of the Site<sup>1</sup>). It has been prepared by ARCADIS on behalf of Beazer East, Inc. (Beazer), former facility owner and operator, and is a companion document to the *On-Property Corrective Measures Implementation Construction Documentation Report* (CMI Documentation Report). The O&M Plan was prepared in accordance with Wisconsin Administrative Code Chapter NR 724 – *Remedial and Interim Action Design, Implementation, Operation, Maintenance and Monitoring Requirements* (Chapter NR 724). This version supersedes a prior version dated December 2009, and reflects the as-built site conditions.

The purpose of this O&M Plan is to provide guidance on the monitoring and maintenance activities necessary to ensure the continued function and effectiveness of corrective actions.

A detailed Site description and history are provided in the *On-Property Corrective Measures Implementation Design Report* (CMI Design Report; ARCADIS, 2009). A KI Facility (Facility) location map is provided as Figure 1 of the CMI Documentation Report.

### 1.1 Summary of Corrective Actions

The completed corrective actions, as depicted on the Record Drawings (Appendix F of the CMI Documentation Report), included:

- Surface covers over impacted soils at eight non-contiguous areas that exceed human health risk-based cleanup remedial objectives. Three types of surface covers were installed:

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<sup>1</sup> The Site includes the KI Facility and affected downgradient areas. This O&M Plan specifically addresses the on-property portion of the Site (i.e., the portion of the Site located within the KI property boundaries). Beazer, in coordination with the WDNR, is evaluating and addressing the off-property portion of the Site separate from the on-property areas.

- Vegetated Surface Cover - A non-woven geotextile overlain by a 12-inch layer of general fill to support vegetative growth.
  - Clay Vegetated Surface Cover - A non-woven geotextile overlain by a 12-inch layer of clay general fill and 3-inches of topsoil to support vegetative growth.
  - Road Base Surface Cover - A non-woven geotextile overlain by a 12-inch layer of compacted well-graded road base material that consists of appropriate grain size materials to resist live loads from equipment operations, while including sufficient fines to achieve compaction requirements.
- Installation of a liner system over approximately 540 linear feet of the existing Outfall 001 drainage ditch on the KI Facility property. The liner system generally consists of Reactive Core Mat™ (RCM), 6 inches of general fill, and 12 inches of rip-rap,

## 1.2 Sources for Additional Information

Additional Site-specific information may be found at the following locations:

- Project file in the Wisconsin Department of Natural Resources (WDNR) regional office:

Wisconsin Department of Natural Resources  
1401 Tower Avenue  
Superior, WI 54880

- Document repository at the Superior Public Library:

Superior Public Library  
1530 Tower Avenue  
Superior, WI 54880

The WDNR point of contact for questions on specific action is:

Mr. Christopher Saari  
2501 Golf Course Road  
Ashland, WI 54806  
Phone: 715.685.2920

## **2. Monitoring and Maintenance**

Although Chapter NR 724.13 indicates quarterly monitoring and progress reporting is required, quarterly monitoring and progress reporting will be conducted for a period of 1 year following construction completion, and then annual monitoring and progress reporting thereafter. Less frequent inspections are appropriate for the implemented remedies for the following reasons:

- The surface covers are not active remedial systems
- After vegetation is established over the Vegetated and Clay Vegetated Surface Covers, which is anticipated to occur over the first year of quarterly monitoring, the areas will be sufficiently stabilized
- The Road Base Surface Covers have been sufficiently stabilized during the construction process through the application of Portland cement in the subgrade and subgrade and final grade compaction requirements

A Site Inspection Form is included as Attachment A. This form is to be completed during each post-construction monitoring event.

A summary of the monitoring and maintenance activities will be detailed in an annual progress report, prepared in accordance with Chapter NR 724.13 (3) and submitted to the WDNR. Photographs of any damage and repairs will be included in the report, where possible.

The remainder of this section outlines the monitoring and maintenance activities.

### **2.1 Surface Cover Monitoring and Maintenance Activities**

For each monitoring event, the surface covers will be inspected to evaluate whether the surface covers have been compromised from natural erosive forces or from human activities. The surface cover areas will be investigated for cracks, sign of subsidence or failure, unwanted ponding of water, or visible sections of geotextile. The need for additional gravel at Road Base Surface Covers and for additional seeding or planting of Vegetated Surface Covers and Clay Vegetated Surface Covers will also be assessed.

## **2.2 Outfall 001 Drainage Ditch Monitoring Activities**

Monitoring of the restored Outfall 001 drainage ditch will consist of visual reconnaissance to evaluate the integrity of the restored ditch and inspection for signs of erosion.

In addition to monitoring the condition of the restored Outfall 001 drainage ditch, monitoring for dense, non-aqueous phase liquid (DNAPL) accumulations within the constructed sumps will be also be conducted. DNAPL monitoring will be conducted monthly for the first three months following completion of the work. If significant DNAPL accumulations occur during that time, more frequent monitoring may be conducted. If significant DNAPL accumulations do not occur during that time, the frequency will be reduced to quarterly for the remainder of the first year. If significant NAPL accumulations do not occur during that time, the frequency will be reduced to semiannual for the second year, after which time the need for, frequency of, and seasonality of continued monitoring will be assessed. During each DNAPL monitoring event, the standpipes located within each sump will be checked for DNAPL accumulations using an oil/water interface probe or other applicable method (e.g., a weighted string). If present, DNAPL will be removed using a pump or bailer and containerized for off-Site disposal or reuse consistent with applicable state and federal regulations.

### **3. Contingency Plan**

If the inspection reveals that the surface covers or restored Outfall 001 drainage ditch are damaged or not operating as intended, repairs will begin as soon as practical based on the nature of maintenance/repair needed. Vegetation will be established as the season allows.

Damage to surface covers will be defined as areas of erosion or scour greater than 4-inches deep in the cover material. If such damage is noted, it will be repaired by backfilling with a soil or stone with properties similar to those of the surface cover being repaired and will be compacted and graded to match the surrounding grade. For Vegetated Surface Covers and Clay Vegetated Surface Covers, once the cover soil has been repaired, the affected area will be re-seeded or replanted and inspected monthly or as necessary, until a healthy vegetative cover is re-established. If washed out areas of rip-rap are observed in the restored Outfall 001 drainage ditch, additional rip-rap will be placed as necessary to prevent continued or ongoing erosion. In addition, excess sediment buildup that occurs during the period that vegetation is being established in the work areas will be removed.

#### **4. Requirements for Future Work**

To achieve the corrective action objectives set forth in the Focused CMS, the following activities, which may compromise the effectiveness of the surface covers and restored Outfall 001 drainage ditch, are prohibited unless performed in accordance with the provisions described in Sections 4.1 and 4.2 below, where applicable, or specifically approved by the WDNR:

- Removal of the surface cover or components of the restored Outfall 001 ditch.
- Replacement of the surface cover, or components of the restored Outfall 001 drainage ditch, with another cover or structure that does not match the intent of the surface covers and Outfall 001 drainage ditch restoration as defined in Section 1 of the CMI Documentation Report.
- Excavating or grading of the land surface within the boundaries of the surface cover or restored Outfall 001 ditch. Placement of additional fill atop the surface cover is permitted without restriction in upland areas.
- Construction or placement of a building or other structure within the boundaries of the surface cover or restored Outfall 001 drainage ditch.
- Any other activity that may disturb, displace, or otherwise compromise the integrity of one or more of the surface covers or restored Outfall 001 drainage ditch.
- Plowing for agricultural cultivation within the boundaries of the surface cover or restored Outfall 001 drainage ditch.

##### **4.1 Regulatory Requirements and Guidance**

Intrusive and waste management activities conducted within the corrective action areas shall be conducted in accordance with applicable state and federal rules, regulations, and guidance. The regulatory requirements may include but are not limited to:

- USEPA regulations, including Title 40 of the Code of Federal Regulations (CFR);
- Occupational Safety and Health Administration (OSHA) regulations, including Title 29 CFR Parts 1910 and 1926, OSHA and United States Department of Labor;
- State of Wisconsin Rules and Regulations regarding disposal/treatment, transportation, and management of hazardous waste;

- Recommendations of the National Institute of Occupational Safety and Health (NIOSH);
- Applicable guidelines of the Douglas County Department of Health and Human Services;
- Transportation regulations, including U.S. Department of Transportation (USDOT) regulations (including Title 29 CFR Parts 171 and 172) and Wisconsin Department of Transportation (WisDOT) rules and regulations;
- Wisconsin Administrative Code Chapters NR 151 – *Runoff Management* (Chapter NR 151); and
- Other applicable federal, state, and local government regulations.

#### **4.2 Site-Specific Requirements**

Prior to conducting activities that would impact the corrective action components described above, except for the monitoring and maintenance activities described in Sections 2 and 3, a work plan must be developed that describes the proposed activities and, at a minimum, addresses the items below. Any work plan will require approval by the WDNR and Beazer. Minimum items to be included in the work plan are:

- A description and schedule of the proposed activities.
- A description of the proposed material handling procedures and estimate of the impacted material quantities to be generated. This shall include details associated with temporary materials staging areas and decontamination activities.
- Proposed methods of managing groundwater that may be encountered during the proposed activities.
- The proposed method of restoring the affected surface cover or Outfall 001 drainage ditch to match or improve the conditions indicated on the Record Drawings (Appendix F to the CMI Documentation Report).
- Proposed erosion control methods including stormwater management.
- Proposed monitoring activities.
- A Health and Safety Plan.



- Quality Assurance and Quality Control Procedures for material handling and restoration of disturbed corrective action components.

#### 4.3 Notification

Any intrusive work performed within the work areas as specified on the Record Drawings (Appendix F of the CMI Documentation Report) shall be performed only upon prior notification to the WDNR and Beazer. Such work shall only be performed in accordance with an approved work plan. Notification shall be made at least 30 days prior to the commencement of any intrusive work unless in an emergency situation. In an emergency situation, the WDNR and Beazer shall be notified by telephone as soon as possible, but no later than one business day following the initial emergency response action.

Written notifications shall be submitted to:

Beazer East, Inc.  
One Oxford Centre, Suite 3000  
Pittsburgh, Pennsylvania 15219  
Contact: Jane Patarcity

Wisconsin Department of Natural Resources  
Mr. Christopher Saari  
2501 Golf Course Road  
Ashland, WI 54806  
Phone: 715.685.2920

The WDNR and Beazer may have a representative observe any intrusive work.



## **Attachment A**

Site Inspection Form

**Post Construction Site Inspection Form**  
**Beazer East, Inc.**  
**Koppers Inc. Facility, Superior, Wisconsin**

Inspection Date: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_

Inspector Name and Organization: \_\_\_\_\_

Inspector Signature: \_\_\_\_\_

**Area A**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Area B**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Area F-1**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Area F-2**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_  
 Photo: \_\_\_\_\_ ; \_\_\_\_\_

## Area G

<i>(check one)</i>	No	Yes	If yes, provide description and take photos
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

## Area H

<i>(check one)</i>	No	Yes	If yes, provide description and take photos
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Areas S-1 and S-2**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

**Outfall 001 Drainage Ditch**

<i>(check one)</i>	<b>No</b>	<b>Yes</b>	<b>If yes, provide description and take photos</b>
Excessive erosion			
Evidence of excessive settling or ponding			
Areas lacking well-established vegetation			

**Action Items:** \_\_\_\_\_

**Photographs:** Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_

Photo: \_\_\_\_\_ ; \_\_\_\_\_