



REPORT

**J.R. Whiting Generating Facility**

*Ponds 1 and 2 - Construction Documentation Report*

Submitted to:

**Consumers Energy Company**

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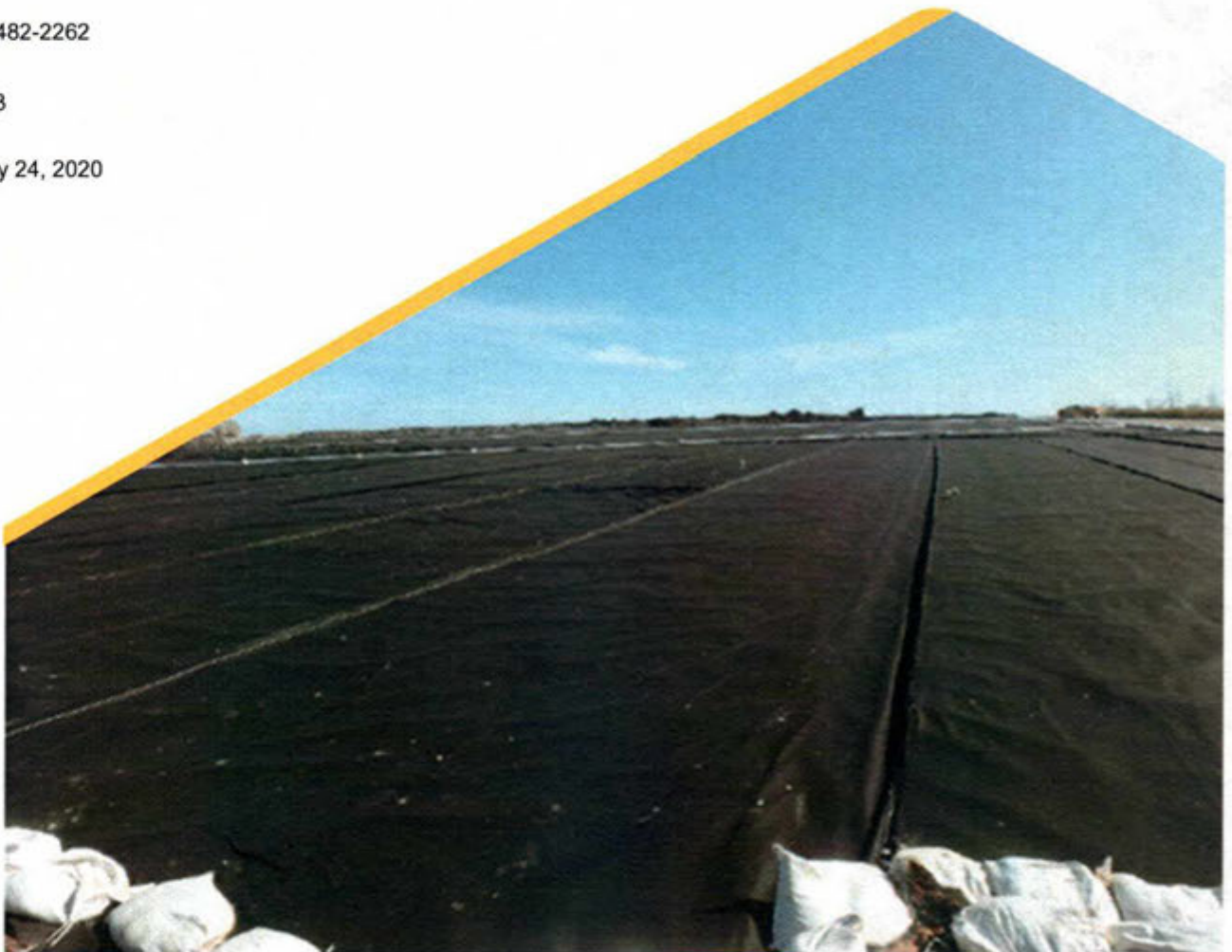
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## Executive Summary

J.R. Whiting Generating Facility (JR Whiting) Ponds 1 and 2 is a coal combustion residual (CCR) surface impoundment which is owned and operated by Consumers Energy Company (CEC). Ponds 1 and 2 are located at the former J.R. Whiting Generating Facility in Erie, Michigan (Site). This Construction Documentation Report (Report) serves as certification that the Ponds 1 and 2 final cover was constructed in general accordance with the following: 40 CFR 257.102(d); the Ponds 1 and 2 Closure Construction Quality Assurance (CQA) Plan dated August 31, 2017; the Part 115 Administrative Rules; and Ponds 1 and 2 Closure Plan submitted to Michigan Department of Environmental, Great Lakes, and Energy (EGLE) on December 18, 2017. Confirmation of the Ponds 1 and 2 Closure Plan approval was provided by EGLE Office of Waste Management and Radiological Protection, now the Materials Management Division, on July 9, 2018 via email. CEC retained Golder Associates Inc. (Golder) to provide CQA services and testing during construction.

Ponds 1 and 2 are located to the east of the former JR Whiting Generating Facility. The total plan area of the geosynthetic cover being certified by this Report is approximately 796,576 square feet (18.3 acres), as shown on Sheet 4 of the Record Drawings in Appendix A.

The Ponds 1 and 2 final cover system includes the following components from bottom to top:

- Regraded onsite CCR and structural fill placed to grade
- 40-mil textured high-density polyethylene (HDPE) geomembrane
- 8-ounce per square yard (oz/sy) nonwoven protective cushion geotextile
- 4-inch diameter perforated drainage piping with sock
- 18-inch-thick protective cover layer
- 6-inch-thick vegetated topsoil layer

The Ponds 1 and 2 closure began on May 7, 2019 with dewatering of the pond and installation of erosion control measures. Earthworks for Ponds 1 and 2 began on June 4, 2019 and was completed on November 21, 2019. Geosynthetics installation was completed in two phases. The first phase (northern portion) commenced on August 15, 2019 and was completed on August 21, 2019. The second phase (southern portion) commenced on September 27, 2019 and was completed on October 8, 2019. Placement of the protective cover and topsoil layers was substantially completed on November 19, 2019. The topsoil survey was completed on November 21, 2019. Seeding and mulching were performed on November 18, 2019 and November 25, 2019.

There were nine clarifications to the Ponds 1 and 2 CQA Plan and/or Closure Plan that were required during construction and were communicated to EGLE. The clarifications are provided in more detail in Section 3.2 Design Clarifications, and email communications are included in Appendix B.4 – Specifications/Clarifications. The data for soils laboratory testing, geosynthetics inventory logs, and geosynthetics manufacturer's certificates are appended.

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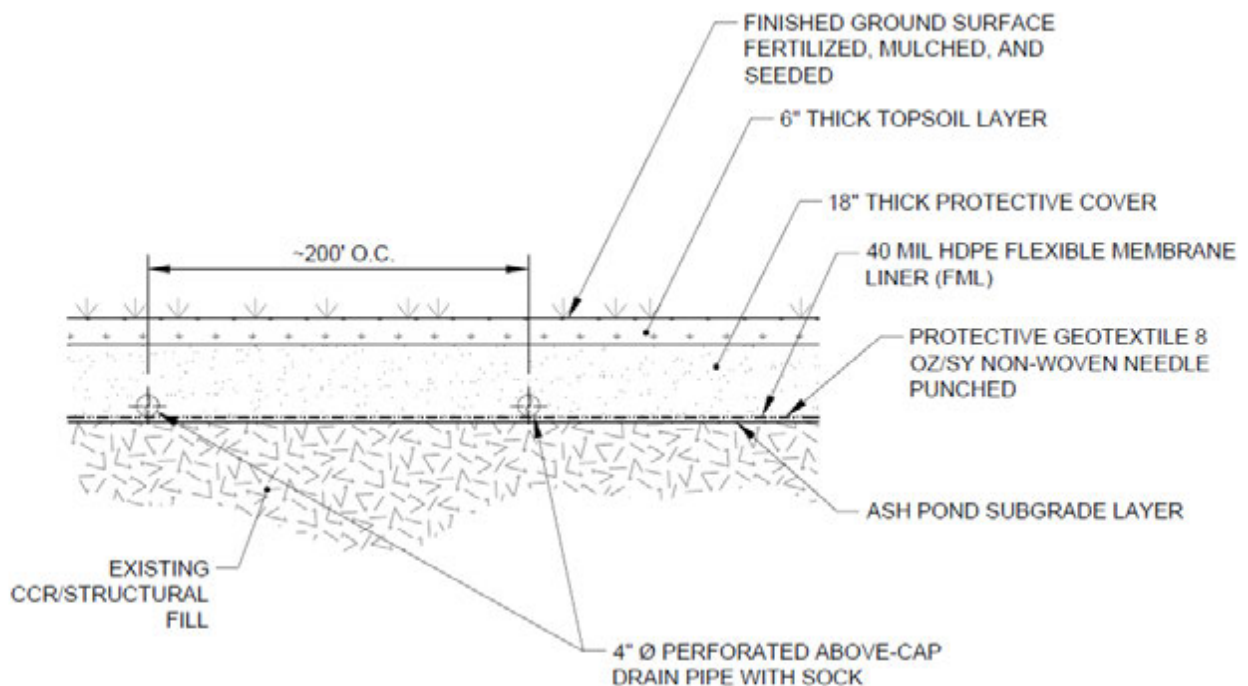
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## 1.0 INTRODUCTION

J.R. Whiting Generating Facility (JR Whiting) Ponds 1 and 2 is a coal combustion residual (CCR) surface impoundment owned and operated by Consumers Energy Company (CEC). Ponds 1 and 2 is located at the former JR Whiting Generating Facility in Erie, Michigan (Site). This Construction Documentation Report (Report) serves as certification that the Ponds 1 and 2 final cover was constructed in accordance with the following: 40 CFR 257.102(d); the Ponds 1 and 2 Closure Construction Quality Assurance (CQA) Plan dated August 31, 2017; the Part 115 Administrative Rules; and Ponds 1 and 2 Closure Plan submitted to Michigan Department of Environmental, Great Lakes, and Energy (EGLE) on December 18, 2017. Confirmation of the Ponds 1 and 2 Closure Plan approval was provided by EGLE Office of Waste Management and Radiological Protection, now the Materials Management Division, on July 9, 2018 via email. CEC retained Golder Associates Inc. (Golder) to provide CQA services and testing during construction.

Ponds 1 and 2 is located to the east of the former JR Whiting Generating Facility. The total plan area of the geosynthetic cover being certified by this Report is approximately 796,576 square feet (18.3 acres), as shown on Sheet 4 of the Record Drawings in Appendix A. Figure 1 depicts the typical cover system for Ponds 1 and 2.



**Figure 1: Typical Ponds 1 and 2 Cover Detail**

It should be noted that quality assurance and quality control are often denoted by the acronyms “QA” and “QC,” respectively and “CQA/CQC,” collectively. In addition, “geosynthetic” is an industry term which collectively refers to geomembrane, geotextile, geosynthetic clay liners (GCL), and geocomposite materials. These terms, as well as the individual component terms, are used throughout the remainder of this Report.

## 2.0 SCOPE OF SERVICES

This Report presents a description of the CQA monitoring and testing services provided by Golder throughout closure construction. Sections 5.0 through 8.0 of this Report include descriptions of the construction documents, which include Earthwork Observations and Testing, 40-mil-thick Textured High-Density Polyethylene (HDPE) Geomembrane, Geotextile, Protective Cover, and Stormwater System. A Project Summary is presented in Section 9.0.

This Report complies with Michigan Administrative Rules promulgated under Part 115 of Public Act 451 of 1994, as amended, specifically Rule 921 – Construction Certification. The certifying engineer signature and a statement by Golder indicating that this Report is true and accurate and contains all information required is included in Section 10.0 at the end of this Report text.

## 3.0 CONSTRUCTION DOCUMENTS AND PARTIES

The CQA Plan, construction plans, and regulatory documents for the closure of Ponds 1 and 2 are listed in Section 3.1. Note that the abbreviated title of each document, as referenced hereinafter, appears within parentheses immediately following the full name.

### 3.1 Reference Documents

The following reference documents were utilized during closure construction of Ponds 1 and 2:

- Ponds 1 and 2 Closure Plan – J.R. Whiting Generating Facility. Erie, Michigan (Closure Plan). Submitted to EGLE on December 18, 2017, approval by EGLE confirmed on July 9, 2018.
- Approved for Construction Drawings Titled “Consumers Energy Company, J.R. Whiting Generating Facility, Ash Pond and Chemical Treatment Pond Closure Project” (Construction Drawings), originally dated October 30, 2017, prepared by Golder.
- Ponds 1 and 2 Closure Construction Quality Assurance Plan - J.R. Whiting Generating Facility (CQA Plan), August 31, 2017, approval by EGLE confirmed on July 9, 2018, prepared by Golder.
- Solid Waste Management Act Administrative Rules promulgated pursuant to Part 115 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

### 3.2 Design Clarifications

There were nine clarifications to the Ponds 1 and 2 CQA Plan and/or Closure Plan that were required during construction and communicated to EGLE. The email correspondence is included in Appendix B.4 and outlined below:

- 1) EGLE approved request to use textured 40 mil HDPE geomembrane in place of the smooth textured 40 mil HDPE geomembrane (letter dated May 13, 2019)
- 2) EGLE approved the use of approximately 5,000 cubic yards (CYD) of sediment from retention ponds to be used as fill for the Ponds 1 and 2 closure (letter dated May 13, 2019)
- 3) EGLE approved vegetation placement in Ponds 1 and 2 (in lieu of disposing in a Type II municipal waste landfill) in the manner recommended by Golder (email dated June 18, 2019)



- 4) EGLE approved clarification that indicated extrusion destructive samples will only be collected when an extrusion repair is greater than 10 feet in diagonal dimension or if a production seam is prepared using an extrusion weld technique (email dated August 26, 2019)
- 5) EGLE approved clarification to use Michigan Department of Transportation (MDOT) 6AA specification gradation for drainage material without the abrasion spec due to application (email dated September 5, 2019)
- 6) EGLE approved road base material design revision from MDOT Class 2NS to MDOT Class II in accordance with MDOT Road Design Manual (email dated September 23, 2019)
- 7) EGLE approved alternate seed mix pursuant to Section 4.2.6 in the Closure Plan based on recommendation of contractor performing seeding and soil types in the area (email dated October 3, 2019)
- 8) EGLE approved clarification/understanding that Golder will collect survey of the above cap drainage piping at 100-foot intervals to document general location of the piping and collect survey information at the piping junctions to confirm minimum design grade exists on each branch of perforated piping that is connected to the header piping (email dated October 24, 2019)
- 9) EGLE approved clarification/understanding that Golder will use the top of subgrade elevation survey and the top of protective cover survey to document that the protective cover is a minimum of 18-inches-thick (if the survey shows the protective cover to be less than 18 inches, the contractor will be given the option to regrade or offset the difference with additional topsoil); Golder will use the top of subgrade elevation survey and the top of topsoil elevation survey to document that the thickness of the protective cover and topsoil combined is a minimum of 24-inches-thick (email dated October 24, 2019)

### 3.3 Parties

The following parties were involved in the closure construction of Ponds 1 and 2 at JR Whiting:

- Consumers Energy Company (CEC) – (Owner)
  - Thomas Shields – Project Manager
  - Rachel Thompson – Project Engineer
  - Jeff Yuchasz – Construction Manager
  - Brad Runkel, P.E. – Landfill Operations Compliance
  - Michelle Marion – Landfill Operations Compliance
- Michigan Department of Environmental, Great Lakes, and Energy, Office of Waste Management and Radiological Protection (EGLE) – Regulator
  - Aubrey Proctor – Jackson Michigan District Office Environmental Engineer
- Golder Associates Inc. (Golder) – Design Engineer and CQA Consultant
  - Tiffany D. Johnson, P.E. – Project Director and Certifying Design Engineer
  - Jeff Piaskowski, P.E. – Project Manager and Certifying CQA Engineer

- Tom Dykowski – Lead CQA Technician (prior to June 2, 2019)
- David Hutchinson – Lead CQA Technician (June 2, 2019 and thereafter)
- Ryan Central Incorporated (Ryan) – Earthworks Contractor
  - Scott Rogers – Project Manager
  - Steve Ganong – Project Engineer
  - John Johnson – Project Superintendent
- Rowe Professional Services Company, Inc. (Rowe) – Professional Certification Surveyor
  - Jonathan Rick, P.S. – Lead Surveyor
- ProAct EvoQua (ProAct) – Dewatering and Environmental Services
- Natural Environmental Reclamation Concepts, Inc. (NERC) – Soil Erosion Control Installer
- Chesapeake Containment Systems Inc. (CCS) - Geosynthetics Installer
  - Jennifer Battle – Project Manager (Phase I and II)
  - Emiliano Saenz – Superintendent (Phase I)
  - Luis Hernandez – QA/QC (Phase I)
  - Greg Parrott - Superintendent (Phase II)
  - Jorge Sanchez QA/QC (Phase II)
- Agru America (Agru) – Geomembrane and Geotextile Cushion Supplier
- SKAPS Industries (SKAPS) – 10 oz/sy nonwoven geotextile for road and drainage separation
- TenCate Mirafi – (bridging) Geotextile Supplier
- TerraTex - (bridging) Geotextile Supplier
- Salenbien Ida West - 3,000 CYD Topsoil
  - 41.904355° / -83.644428°
- Devos - 12,000 CYD Topsoil
  - 41.8165480° / -83.7885070°
- Tyler Trucking Cherry Hill - 3,000 CYD Topsoil
  - 42.307528° / -83.538394°
- Aggregate Industries – Structural Fill & Protective Cover
  - Dundee-Holcim Limestone Quarry MDOT Pit # 58-006

- 41.997523°/ -83.656898°
- Baughman Tile Co. – Drainage Tile Supplier (Above Cap Drainage Piping)
- Co-Pipe Products, Inc. – Reinforced Concrete Pipe (RCP) Manufacturer
- Golder – Soils/Geosynthetic Laboratory
  - David Alexander – Geosynthetic Laboratory Manager, Atlanta, Georgia
  - Tim Sanders – Soil Laboratory Manager, Lansing, Michigan

Lists of the specific Golder and Phase I and II CCS field personnel involved in the Ponds 1 and 2 projects are included in Appendices B.1, B.2, and B.3, respectively.

## 4.0 LINER CONFIGURATION

Ponds 1 and 2 is a rectangular shaped area with an approximate lined two-dimensional plan area of 796,576 square feet (18.3 acres).

The components of the constructed Ponds 1 and 2 final cover system from bottom to top are:

- Regraded onsite CCR and structural fill placed to grade
- 40-mil textured HDPE flexible geomembrane liner
- 8-oz/sy nonwoven needle-punched protective geotextile
- 4-inch diameter perforated drain tiles with sock
- 18-inch layer of protective cover material
- 6-inch layer of topsoil for vegetation establishment

Additional components include the following:

- Precast concrete piping
- Road and base aggregates

Throughout this Report, all references to the dimensions used are the nominal value unless otherwise indicated. Project Daily Reports with photographs are included in Appendix C.

The quantities of materials that were used in the closure construction of Ponds 1 and 2 are presented in Table 1, Ponds 1 and 2 Quantities.

**Table 1: Ponds 1 and 2 Quantities**

Material	Description	Approx. Quantity	Units <sup>1</sup>
Structural Fill	Ponds 1 and 2 backfill	54,040	CYD
Protective Cover Soil	18-inch-thick protective cover	44,254	CYD
Topsoil	6-inch-thick layer	88,508	SYD
Road Fill & Subbase	MDOT Class II	1,985	CYD
Road Base	MDOT 23A	1,680	CYD
Geomembrane	40-mil textured HDPE	796,576	SF
Geotextile (Geomembrane Cushion)	8 oz/sy nonwoven geotextile	796,576	SF
Above Cap Geotextile (Road and Culvert)	10 oz/sy nonwoven geotextile	96,575	SF
Geotextile (Bridging Layer)	10 oz/sy woven geotextile	34,000	SY
Above Cap Drainage Piping	4-inch HDPE Solid Wall	837	LF
Above Cap Drainage Aggregate	MDOT 6AA	23	CYD
Above Cap Drainage Piping	4-inch HDPE Perforated Wall	3301	LF
Reinforced Concrete Pipe (RCP)	12-inch diameter	65	LF
Seed, Fertilizer, Mulch	Per MDOT <sup>2</sup> standards and project specifications	88,508	SYD

Notes: <sup>1</sup>Units: CYD = cubic yards, SYD = square yards, SF = square feet, LF = linear feet

<sup>2</sup>Michigan Department of Transportation

## 5.0 EARTHWORK OBSERVATIONS AND TESTING

The existing grades of Ponds 1 and 2 consisted of CCR that required dewatering and grading to achieve a surface suitable for structural fill placement. Structural fill was placed and graded until the design subgrade elevations were met. The procedures for existing surface grading, structural fill testing, and subgrade acceptance of Ponds 1 and 2 are outlined in Sections 5.1 to 5.3. The procedures for placing and testing the other various materials used during the pond closure are outlined in Section 5.4.

### 5.1 Existing Surface Grading

Ponds 1 and 2 were dewatered by actively pumping the ponds' contents downstream in a manner that complied with permitted National Pollution Discharge Elimination System (NPDES) outfall requirements. Once the ponds were dewatered, the existing piping infrastructure was removed or abandoned and subgrade areas were assessed by the construction team to determine if they were suitable for regrading or if bridging layers were

required. Areas where soft or unsuitable subgrade soils were identified were bridged with a 10 oz/sy woven geotextile beneath a single three-foot lift of bottom ash CCR or bridged with onsite vegetation per design clarification No. 3. Areas were accepted for fill placement when no rutting or pumping was observed in excess of one inch. Ryan regraded the onsite CCR material using six-inch loose lifts to expedite the drying time. Compaction of the regraded materials was achieved with standard earthwork equipment until no rutting or pumping was observed in excess of one inch. Ryan regraded the onsite materials to establish a uniform grade across the site capable of supporting subsequent structural fill and final cover materials.

## 5.2 Structural Fill

Structural fill was placed on the uniform regraded CCR surface to achieve the grades required by the contract drawings. Ryan placed the material using excavators, dozers, and articulated off-road haul trucks. A minimum of three samples per borrow source were collected and tested for maximum dry density following ASTM D 1557 and grain size distribution per ASTM D 422. The laboratory results meet the maximum particle size of three inches specified in the Closure Plan and are included in Appendix D.1 - Structural Fill.

Ryan compacted the structural fill in lifts, each having a general thickness of nine inches. Golder observed that each soil lift was thoroughly and uniformly compacted to an acceptable moisture and density that met project specifications. In place moisture-density testing was performed following ASTM D6938 at a minimum frequency of one test per acre per lift. See Appendix G – Density Testing for a summary of the field moisture-density test results of the structural fill.

## 5.3 Subgrade Acceptance

Once design elevations were generally met, the area was fine-graded using global positioning system (GPS) controlled equipment, smooth drum rolled, and inspected for rocks 0.75 inches or larger in diameter. Rocks 0.75 inches or larger were removed, and final elevations were recorded by Rowe to verify that elevations were within the grade tolerances of 0.0 feet to -0.2 feet. The prepared subgrade was then reviewed by CEC, CCS, Ryan, and Golder. Acceptable areas were relinquished to CCS for deployment of geosynthetic materials. Subgrade Acceptance Certificates were subsequently executed when deployed geosynthetic quantities were established. The Subgrade Acceptance Certificates are provided in Appendix H.1, and Record Drawings of the subgrade prepared with Rowe's survey are presented in Appendix A.

## 5.4 Other Material Testing

### 5.4.1 Access Road Subbase and Base

Ryan placed Class II granular subbase material and Class 23A road base aggregate per design in horizontal lifts with a compacted thickness of 12 inches. The road materials were placed with low ground pressure dozers (less than five pounds per square inch (psi)) to +0.2 to -0.0 foot grade tolerances. Survey of the construction control points are provided on Sheet 6 of the Record Drawings in Appendix A.

A minimum of one sample per borrow source was collected and tested for maximum dry density following ASTM D 1557 and grain size distribution per ASTM D 422. Laboratory results of the testing are included in Appendix D.4 – Sub-Base for Road and Appendix D.5 – Road Base Material.

In place moisture-density testing was performed by Golder following ASTM D6938 at a minimum frequency of one test per lift per 100 linear feet of road to verify compliance with the project requirements. See Appendix G for a summary of the field moisture-density test results of the road base and road sub-base aggregate.

### 5.4.2 Culvert Bedding

Ryan placed Class IIIA material for culvert bedding. A minimum of one sample per borrow source was collected and tested for maximum dry density following ASTM D 1557 and grain size distribution per ASTM D 422. Laboratory results of the testing are included in Appendix D.3 – Culvert Sand.

Ryan placed the pipe and culvert bedding material in horizontal lifts with a maximum loose thickness of six inches (one-half the diameter of the culvert). In place moisture-density testing was performed by Golder following ASTM D6938 at a minimum frequency of one test per lift per 100 linear feet of piping to verify compliance with the project requirements. See Appendix G for a summary of the field moisture-density test results of the pipe and culvert bedding material.

### 5.4.3 Above Cap Drainage Stone

Ryan placed MDOT 6AA stone around the solid sections of above cap collection header piping. A minimum of one sample per borrow source was collected and tested for grain size distribution per ASTM D 422. It should be noted that the MDOT 6AA material was only tested for gradation (ASTM D 422) in accordance with design clarification no. 5 to assure the material will be suitable for its free draining application around the above cap drainage piping. Laboratory results of the testing are included in Appendix D.6 – MDOT 6AA Aggregate.

## 6.0 40-MIL TEXTURED HDPE GEOMEMBRANE

The Ponds 1 and 2 final cover geomembrane is a 40-mil textured HDPE manufactured by Agru that was approved for Ponds 1 and 2 in design clarification no. 1. The geomembrane was installed by CCS directly over acceptable subgrade. Details of the installation are described in the following subsections.

### 6.1 Geomembrane Inventory and Manufacturer's Certifications

Rolls of geomembrane were visually inspected for quality during unloading and storage. Roll numbers received were checked against shipping documents and manufacturer's material certifications. 40-mil textured HDPE geomembrane was used exclusively to cap Ponds 1 and 2.

Agru provided certification reports for the 40-mil textured HDPE geomembrane rolls supplied for this project. The rolls were tested for thickness, tensile properties, tear resistance, puncture strength, elongation, carbon black content, carbon black dispersion, melt flow index, geomembrane resin density, and asperity height. The resin supplier performed quality control testing on the HDPE resin for density and melt flow index. Resins were supplied by Chevron Phillips Chemical Company, LLP. The reported values of each roll tested met or exceeded the requirements of the CQA Plan and the manufacturer's stated minimum values. The manufacturer's QC testing results were checked for completeness and conformance to the project specifications. In accordance with the CQA Plan, no additional conformance testing was required. Inventory and manufacturer's certifications for the textured HDPE geomembrane are included as Appendix E.2 – Geomembrane Quality Control Certificates.

### 6.2 Geomembrane Installation and Seaming

Resumes of CCS installation personnel are included in Appendix B.2 and B.3 for Phase I and II, respectively.

Geosynthetics were deployed using either a Sky-Trak JLG 10054 telehandler or a CAT 299D skid steer with a spreader bar attachment. Panel deployment was generally west to east, starting from the north side of Pond 1 and ending at the south side of Pond 2. Panels were pulled by hand, and no equipment was allowed on previously deployed geomembrane.

Geomembrane panels were overlapped a minimum of four inches and shingled in the direction of flow. Unbound edges of the geomembrane panels were temporarily loaded with sandbags prior to seaming. Cross seams were minimized, and no cross seam occurred on slopes steeper than 10 percent or within five feet of the anchor trench or toe or crest of slopes.

As each panel was deployed, it was assigned a unique field identification number by Golder. Geomembrane panel placement information is located in Appendix H.2 – Panel Placement Summary. Panels were observed by Golder for damage and manufacturing imperfections. Observed defects were marked by Golder and repaired by CCS. The panel layout diagram for the liner includes the geomembrane panel orientation, destructive sample locations, and repairs. The panel layout plan for Ponds 1 and 2 is included in the construction Record Drawings as Sheet 4 in Appendix A. There were 52 rolls of Agru 40-mil textured HDPE geomembrane used for the closure construction of Ponds 1 and 2, which resulted in 52 panels.

Prior to seaming, trial weld samples were prepared and tested in the field using a field tensiometer to qualify welders for seaming activities. Trial weld samples were made from excess liner and prepared using the same procedures and under the conditions anticipated during field welding. Three one-inch-wide coupons were removed from the trial weld sample and tested for peel adhesion, and three coupons were tested for shear strength.

Trial welds were performed at the beginning of each seaming period; at changes of equipment, equipment settings, or power supply interruption; at least every five hours or as directed by the CQA technician in accordance with temperature and weather conditions during operation; and at the end of day. Golder personnel observed the trial weld preparation and testing performed on the trial weld and end of day samples.

It should be noted that, on September 27, 2019, end of day trial welds were not performed for Machine 1707 or Machine 1743. As noted in the Daily Field Report, unexpected poor weather the afternoon of September 27, 2019 required workers to prematurely end geosynthetic installation operations. All other end of day trial welds were collected and reported.

Peel and shear test criteria were based on the requirements of the CQA Plan. The minimum strength criteria required for peel testing of the textured 40-mil HDPE geomembrane was 60 pounds per inch (ppi) for fusion welds and 52 ppi for extrusion welds. For shear testing, the minimum strength criterion was 80 ppi for both fusion and extrusion welds. No (zero percent) weld separation was allowed on any specimen during trial weld testing. Results of the trial weld testing are presented in Appendix I - Liner Trial Seam Logs.

Production seaming was performed using a dual hot wedge fusion welder. This device creates two fused seams separated by an air channel. The air channel can be pressurized to non-destructively test the completed seam. Repairs and patching were performed with an extrusion welder.

The procedures associated with both fusion and extrusion seaming operations were observed by Golder. These observations included seam preparation, weather conditions, general seaming procedures, overlap of geomembrane panels, and temporary bonding procedures. Seams were visually inspected throughout their length for quality and seam completion. Visually detected imperfections were marked by Golder and subsequently repaired by CCS. Geomembrane panel seaming records are presented in Appendix I.1 - Fusion Trial Seam Logs.

### 6.3 Defects and Repairs

The geomembrane deployment and seaming were monitored for defects. Each defect was documented and recorded by Golder, given a unique identifier, and repaired by CCS. Repairs were generally made by extrusion welding patches and cap strips over defects. Where minor surficial defects were observed, grind and weld practices were implemented to make the repair.

Golder defines patches as pieces of liner cut to extend beyond the defect a minimum of six inches, which are then extrusion welded over the defect. Golder defines cap strips as long patches used to repair failed lengths of seam. Grind and welds are considered minor repairs for surficial defects that do not extend the full depth of the liner. Patches and cap strips were cut to fit the defect or failed seam then tacked to the geomembrane liner with a hot air Leister gun. The edges were beveled with a sandpaper disc and then extrusion welded. Defects were non-destructively tested with vacuum testing. Documentation of geomembrane repairs is included in Appendices K.1 and K.2, Defect Logs and Repair Logs, respectively.

### 6.4 Geomembrane Seam Non-Destructive Testing

Non-destructive testing of geomembrane seams consisted of air channel pressure testing or vacuum box testing. Seams and repairs failing non-destructive testing were repaired and retested until passing results were obtained.

Air channel testing consisted of pressurizing the channels between the dual wedge seams with air to a pressure of at least 30 psi. The channels were kept pressurized for a minimum of five minutes, after which the technician released the pressure from the seam end opposite the pressure gauge to ensure continuity. Passing tests for 40-mil HDPE geomembrane were those with no more than a drop of four psi over the five-minute period. If a dual wedge seam did not meet the passing requirements, the seam was tested in shorter segments to isolate the portion which could not be pressure tested. There were no failing air tests for Ponds 1 and 2 fusion welded seams.

Vacuum testing utilizes a vacuum box consisting of a clear acrylic window with a thick neoprene gasket around the bottom edge. The box is connected to a vacuum source that reduces the air pressure in the box. A soapy water solution is applied to the weld to be tested, the box is manually pressed against the seam, and a vacuum of at least five psi is applied inside the box for a minimum of 10 seconds. If no air bubbles were observed coming from the seam/weld, the test was considered passing. Bubbles being drawn through the seam and viewed through the window on the box were evidence of a leak in the extrusion weld. There were no failing vacuum box tests for the extrusion welded seams or repairs.

Documentation of geomembrane non-destructive testing is included in Appendices K.3 and K.4, Non-Destructive Air Testing Logs and Vacuum Testing Logs, respectively.

### 6.5 Geomembrane Seam Destructive Testing

In general, destructive test samples were taken at a frequency of at least one test per 500 linear feet of production fusion seam with a minimum of one test per day per seaming crew member. Extrusion welding destructs were sampled at a frequency of one test per 500 linear feet of production welding. Although, it should be noted that only defect repairs that have a diagonal dimension in excess of 10 feet were recorded as extrusion production welding in accordance with design clarification no. 4. Destructive sample locations were marked by Golder personnel based on required frequencies or if a portion of seam was considered suspect.



A total of 77 fusion-welded destructive samples were collected from 35,799 linear feet of fusion welding on Ponds 1 and 2; this results in one destructive sample taken every 465 feet on average. No extrusion panel seaming was performed, but two repairs were recorded that were larger than 10 feet diagonally. Repair 5M was conducted on October 5, 2019; and Repair 7F was conducted on October 7, 2019. Repair 5M and Repair 7F measured 140-foot-long and 20-foot-long, respectively. Extrusion destructive sample DX-2 was taken on Repair 5M, and extrusion destructive sample DX-3 was taken on Repair 7F in accordance with the CQA Plan; and both passed testing specifications.

Destructive seam samples were obtained at the locations shown on the Record Drawings provided on Sheet 4 in Appendix A. The destructive samples were approximately 36-inches-long. The samples were generally cut into three pieces with 12 inches of the sample tested in the field (five peel and five shear), 12 inches of the sample submitted to Golder's Atlanta lab for additional testing (if the field section passed), and the remaining 12 inches of the sample retained by CEC as an archive.

The pass/fail criteria for the 40-mil textured HDPE geomembrane seams were based on the requirements of the CQA Plan as follows:

**Table 2: Field and Laboratory Destructive Seam Strength Requirements**

Property	Test Method	40 mil Textured HDPE
Shear Strength – <b>Fusion</b> Weld (Hot Wedge) – pounds per inch (ppi)	ASTM D 6392 – GRI-GM19a	80
Peel Strength – <b>Fusion</b> Weld (Hot Wedge) - ppi	ASTM D 6392 – GRI-GM19a	60
Shear Strength – <b>Extrusion</b> Weld - ppi	ASTM D 6392 – GRI-GM19a	80
Peel Strength – <b>Extrusion</b> Weld - ppi	ASTM D 6392 – GRI-GM19a	52

There was one failing fusion and no failing extrusion destructive tests recorded on the Ponds 1 and 2 final cover. The failed geomembrane seam destructive location was tracked in the 'previous' and 'next' direction 10 feet, resampled, and retested. Ultimately passing locations were found, which bound the failing segment. The failing segment was subsequently capped (see Repair 5M and 7F that extend to DS-44P and DS-44N, respectively on Sheet 4 in Appendix A).

The Ponds 1 and 2 destructive fusion and extrusion weld test results indicated that the welds meet the requirements presented in the CQA Plan. Results of laboratory testing of destructive seam samples are included in Appendix L - Seam Destructive Test Results.

## 7.0 GEOTEXTILE

Three different geotextiles were used for various applications during the closure of Ponds 1 and 2. A 10 oz/sy woven geotextile was used to bridge soft subgrade areas after dewatering and before CCR regrading. An 8 oz/sy nonwoven geotextile was used over the geomembrane as a protection cushion; and a 10 oz/sy nonwoven geotextile was used to separate the subgrade from the road subbase, separate the road subbase from the road base, and separate the above cap drainage aggregate from the protective cover soil.

## 7.1 Bridging Layer

A 10 oz/sy woven geotextile, Mirafi HP570 or TerraTex HPG-57 manufactured by Tencate Mirafi and TerraTex, respectively, were installed as a bridging layer over unsuitable CCR subgrade. The technical information for these products is provided in Appendix F.4 – Bridge Lift Geotextile QC Certificates.

## 7.2 Geomembrane Cushion and Access Road Separation

An 8 oz/sy nonwoven AgruTex 081 geotextile manufactured by Agru was installed as a protection cushion over the geomembrane. A 10 oz/sy nonwoven SKAPS GE110 geotextile was installed to separate the subgrade from the road subbase, separate the road subbase from the road base, and separate the above cap drainage aggregate from the protective cover soil.

The rolls of nonwoven geotextile were visually inspected during unloading and storage to ensure good quality. Roll identification numbers received were checked against and complied with both the shipping documents and manufacturer's material certifications.

Agru and SKAPS provided a material testing and certification report for rolls of geotextile supplied for this project. Geotextile certifications were checked for completeness and conformance to the project specifications. Geotextile inventory logs are included as Appendix F.1, and geotextile quality control certificates are included as Appendices F.2 and F.3.

## 7.3 Installation of Geomembrane Cushion and Access Road Separation

The 8 oz/sy nonwoven cushion geotextile panels were deployed from rolls with a Sky-Trak JLG 10054 telehandler and spreader bar stationed on the Ponds 1 and 2 perimeter access road. The nonwoven geotextile was placed longitudinally on the slopes in a manner that minimized seams. The panels were overlapped at minimum four inches and were continuously sewn using a butterfly seam configuration and double looped stitch.

The 10 oz/sy nonwoven geotextile was installed by hand and adjusted manually as needed.

The installation of nonwoven geotextiles was monitored continuously by Golder. Any areas found to need repair smaller than six square feet were covered with a piece of geotextile extending two feet in all directions from the defective area and secured into place by thermally bonding the patch to the underlying geotextile.

## 8.0 STORMWATER SYSTEM AND PROTECTIVE COVER

The following sections describe the materials, installation, and testing of the Ponds 1 and 2 stormwater system and protective soil cover in more detail.

### 8.1 Stormwater System

The above cap drainage collection system utilized perforated four-inch diameter Poly Smooth-Line F477 dual wall HDPE pipes wrapped with a geotextile sock from Baughman Tile Co. (Baughman). The perforated collection pipes were connected into four-inch diameter solid collection header pipes with MDOT 6AA stone for drainage. The solid collection header pipes and MDOT 6AA drainage stone were wrapped with 10 oz/sy nonwoven geotextile to separate the drainage stone from the protective cover materials. It should be noted that the MDOT 6AA material was only tested for gradation (ASTM D 422) in accordance with design clarification no. 5 to assure the material will be suitable for its free draining application around the above cap drainage piping.

The proposed access road off Erie Road required a 12-inch diameter precast RCP culvert, which was supplied by Co-Pipe Products, Inc. (precast manufacturer). Golder project engineers reviewed the material submittal and approved the culvert for project use. The details of the stormwater system are provided in Appendix M - Stormwater System Information.

The installation of the above cap drainage and culvert were monitored continuously by Golder. The stormwater system components were installed in accordance with the Closure Plan and manufacturer recommendations. The drain tiles were set by Ryan and surveyed at 100-foot intervals to document general location of the piping and at the piping junctions to confirm minimum design grade exists on each branch of perforated piping in accordance with the CQA Plan and design clarification no. 8. The layout of the above cap drainage piping and recorded survey are included on Sheet 5 and Sheet 6 of the Record Drawings (Appendix A), respectively.

The 12-inch diameter RCP culvert in the northwest corner of Ponds 1 and 2 was surveyed, and the invert elevations are provided on Sheet 5 of the Record Drawings (Appendix A).

## 8.2 Protective Cover Layer

The 18-inch-thick protective cover layer placed above the geotextile was classified by the Unified Soil Classification System (USCS) as lean clay (CL) with no stones larger than 0.75 inches. The protective cover soils were imported from Aggregate Industries Dundee-Holcim Limestone Quarry in Dundee, Michigan.

### 8.2.1 Protective Layer Material Testing

Samples of the protective cover material placed over the geosynthetics were obtained for every 3,000 CYD of material placed and/or when the material source changed. The material was tested and classified by Golder as it was received onsite. Approximately 45,000 CYD of protective material was placed over the geosynthetics, and 18 classifications were performed. All 18 samples were classified as CL.

Results of the laboratory testing performed on the protective cover material met the requirements of the CQA Plan and are presented in Appendix D.2 - Protective Cover Material.

### 8.2.2 Protective Material Installation

The protective cover was placed as one continuous lift. Haul trucks were only allowed to travel on areas with at least four feet of cover. In addition, the trucks dumped only on areas where material was already spread. Dumping of material directly on the geotextile was prohibited. Material was spread by low ground pressure dozers (less than five psi) in a manner that minimized wrinkle propagation. Thickness control was maintained by a GPS-controlled dozer and by probe measurements. Placement of protective cover material was continuously observed by Golder and Ryan to ensure that the geosynthetics were free from damage, excessive wrinkles, and folds.

Once the protective cover materials were installed to an 18-inch-thick design thickness, a survey check was completed by Rowe at construction control points on a 100-foot grid system to confirm grade tolerances within +0.2 feet to 0.0 feet from designed grades in accordance with the CQA Plan. Areas out of tolerance were generally regraded to meet the requirements in the Closure Plan and CQA Plan. If areas were lower than the protective cover design, the contractor was given the option to place additional topsoil to meet the minimum total final cover thickness of at least 24-inches in accordance with design clarification no. 9.

### 8.3 Topsoil, Seed, Fertilizer, and Mulch

Topsoil for the Ponds 1 and 2 closure came from three separate sources as identified below. Each topsoil source was given CEC environmental approval for use and tested to confirm at least 2.5 percent organic content for vegetation establishment. The topsoil organic content testing for each source is provided in Appendix D.7 – Topsoil Results.

- Salenbien Ida West - 3,000 CYD Topsoil
  - 41.904355° / -83.644428°
- Devos - 12,000 CYD Topsoil
  - 41.8165480° / -83.7885070°
- Tyler Trucking Cherry Hill - 3,000 CYD Topsoil
  - 42.307528° / -83.538394°

Topsoil was placed and graded in a six-inch-thick layer by Ryan. After placement of the topsoil, Rowe surveyed top of topsoil at the same subgrade construction control points to document 24 inches of protective cover and topsoil (combined). The calculated thickness at each construction control point is provided on Sheet 6 of the Record Drawings (Appendix A).

Natural Environmental Reclamation Concepts, Inc. performed seeding and mulching on November 19, 2019 and November 21, 2019. La Crosse Seed LLC developed the MDOT seed mix consisting of Ruddy Creeping Red Fescue, Sideways Perennial Ryegrass, Eureka II Hard Fescue, SR2100 Kentucky Bluegrass, and Fults Puccinella Distans in accordance with design clarification no. 7. Turf Care Supply Corporation supplied the 24-14-14 fertilizer, and straw mulch was placed over the seeded areas and crimped to the topsoil. The seed was broadcast spread and drilled into the topsoil layer with a cultipacker behind a 5 series John Deere four-wheel-drive utility tractor which exerts less than 5 psi on the liner. Seed, fertilizer, and mulch met the project requirements and MDOT standards; and the product information is summarized in Appendix N - Seed, Fertilizer, and Mulch Information.

## 9.0 PROJECT SUMMARY

Golder was retained by CEC to provide CQA services during the closure construction of Ponds 1 and 2 at the former J.R. Whiting Generating Facility located in Erie, Michigan. The services provided included CQA associated with CCR regrading, structural fill placement, subgrade acceptance, 40-mil textured HDPE geomembrane installation, 8 oz/sy nonwoven geotextile installation, above cap drainage piping installation, protective cover placement, and vegetative erosion layer placement (six-inch-thick topsoil and seed). Continuous observation was provided by Golder for closure construction of the Ponds 1 and 2 final cover system.

A summary of construction activities was documented by Golder personnel on Project Daily Reports included as Appendix C. Selected construction photographs are also presented in Appendix C. Record drawings are provided in Appendix A.

Golder implemented the CQA Plan, which included testing of structural fill soil, geosynthetic materials, above cap drainage stone, protective cover soil, topsoil, access road subbase sand, and access road base aggregate; observation and documentation of the geomembrane liner deployment, seaming, non-destructive testing, and

destructive seam strength testing; and observation and documentation of the placement of the cover materials and stormwater system.

The observations made by Golder during the closure construction of Ponds 1 and 2 indicate that the construction is in compliance with the reference documents listed in Section 3.1, with documented design clarifications noted in Section 3.2

## 10.0 CERTIFICATION

The observations and tests performed by Golder personnel as described in this Report during the final cover construction of Ponds 1 and 2 (18.3 acres) indicate that the materials tested conform to the requirements, and construction was performed in compliance with the Part 115 Administrative Rules, approved Ponds 1 and 2 Closure Plan, CQA Plan, and reference documents listed in Section 3.1.

I certify that this document and attachments were prepared under my direction or supervision in conformance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiries of the persons who were directly responsible for gathering the information, the information submitted is, to the best of my knowledge, true, accurate, and complete.

### **Golder Associates Inc.**



Jeffrey R. Piaskowski, P.E.  
*Certifying Engineer*  
*Michigan Professional Engineer*  
*P.E. Number 6201061033*



David M. List, P.E.  
*Senior Practice Leader, Principal*

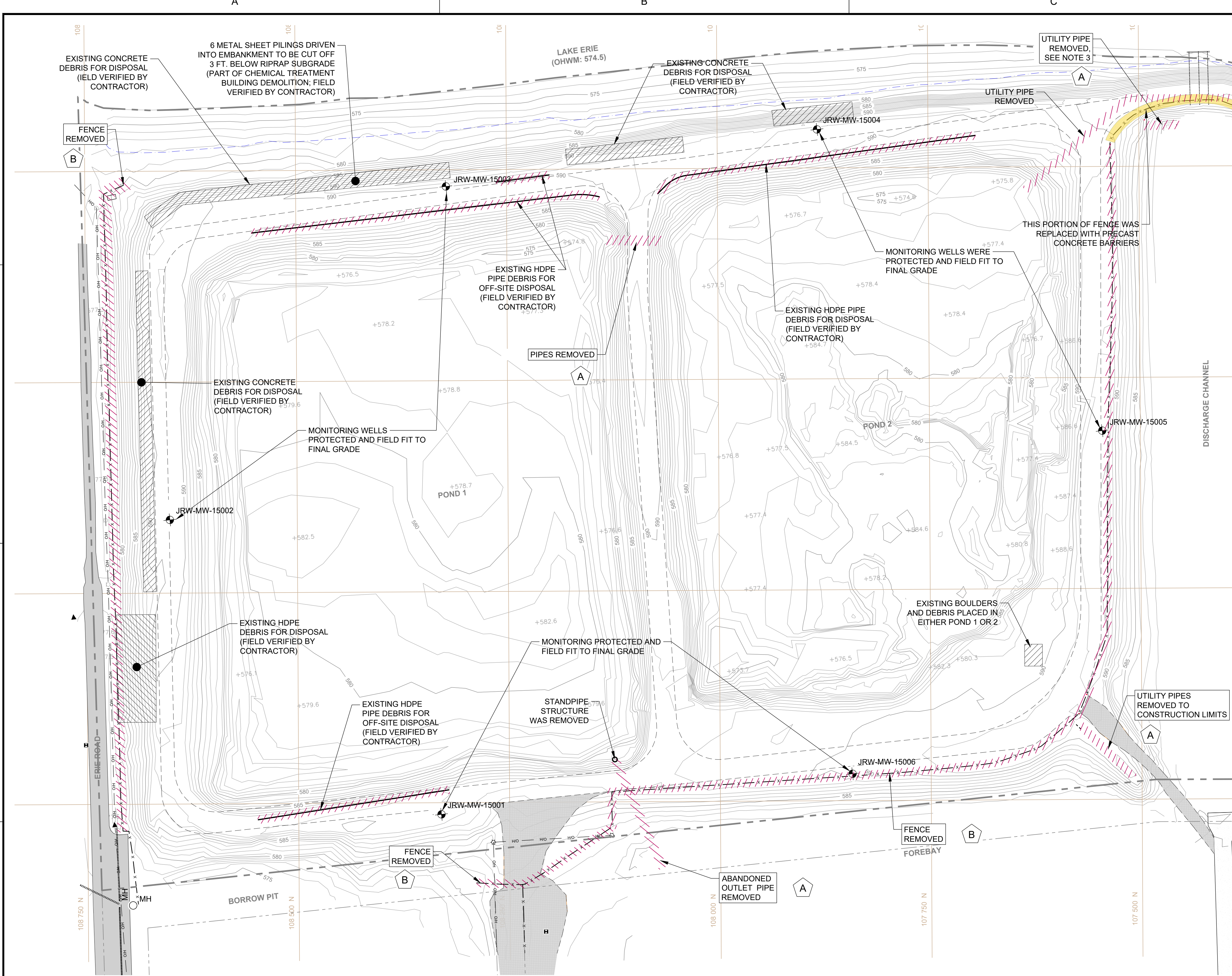
Golder and the G logo are trademarks of Golder Associates Corporation

**APPENDIX A**

# Record Drawings







**LEGEND**

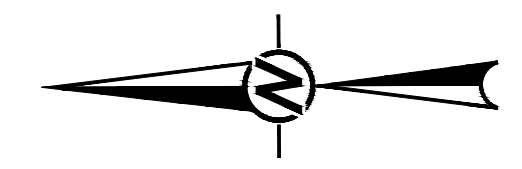
- PROPERTY BOUNDARY
- - - DIVESTITURE EASEMENT
- x - x - x - FENCE
- OH - OH - OVERHEAD UTILITY
- - - UTILITY PIPE
- - - STORM PIPE
- /// REMOVED
- - - APPROXIMATE LAKE ERIE WATER LINE, MAY 2019
- - - EDGE OF EXISTING ACCESS ROAD
- A
- 590
- 585
- SHEET PILING
- ▲ CONTROL POINT
- ⊕ MONITORING WELL
- x - x - x - FENCE REMOVED AND REPLACED WITH PRECAST CONCRETE BARRIERS

- NOTES**
- EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN.
  - EXISTING VEGETATION NOT SHOWN ON THIS PLAN FOR CLARITY.
  - PIPE WAS CUT AND AN APPROXIMATELY 15-FT SECTION WAS REMOVED PRIOR TO CAPPING WITH SANDBAGS AND A 4 TO 6-INCH THICK GROUT PLUG. NO DISCHARGE FROM THE PIPE WAS OBSERVED PRIOR TO OR FOLLOWING CAPPING.

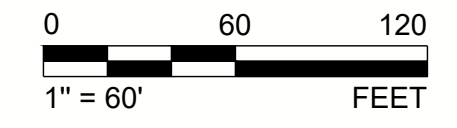
- REFERENCES**
- SITE LOCATION: SECTION 14, T8S, R8E, MONROE COUNTY, MICHIGAN.
  - EXISTING GROUND TOPOGRAPHY WAS PROVIDED BY SHERIDAN SURVEYING CO. ON 02/23/2017.
  - COORDINATE SYSTEM:  
VERTICAL: NGVD29.  
HORIZONTAL: MICHIGAN STATE PLANE SOUTH ZONE NAD83 (2011).
  - MONITORING WELL LOCATIONS AS PRESENTED IN: SUMMARY OF MONITORING WELL DESIGN, INSTALLATION, AND DEVELOPMENT (ARCADIS, 2016).
  - LAKE ERIE ORDINARY HIGH WATER MARK (OHWM) OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. (www.LRE.USACE.ARMY.MIL/MISSIONS/GREAT-LAKES-INFORMATION/LINES/ORDINARY-HIGH-WATER-MARK-AND-LOW-WATER-DATUM).

**DEMOLITION SCHEDULE**

- A PIPING
- B FENCING



**RECORD DRAWING**



REFERENCE DRAWINGS	REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO
	0	2/14/2020	ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099		JJS	JRP	DML	JRP

SIGNATURE  
  
 NAME  
 JEFFREY R. PIASKOWSKI  
 MICHIGAN P.E. No.  
 6201061033

**Consumers Energy**  
**J. R. WHITING GENERATING FACILITY**  
 ERIE, MI

**STRUCTURE REMOVAL AND ABANDONMENT PLAN**

SCALE: 1" = 60'  
 DRAWING NO. **1788523A002**  
 SHEET **2** OF **0**

JOB: PT-01851 & PT-02099

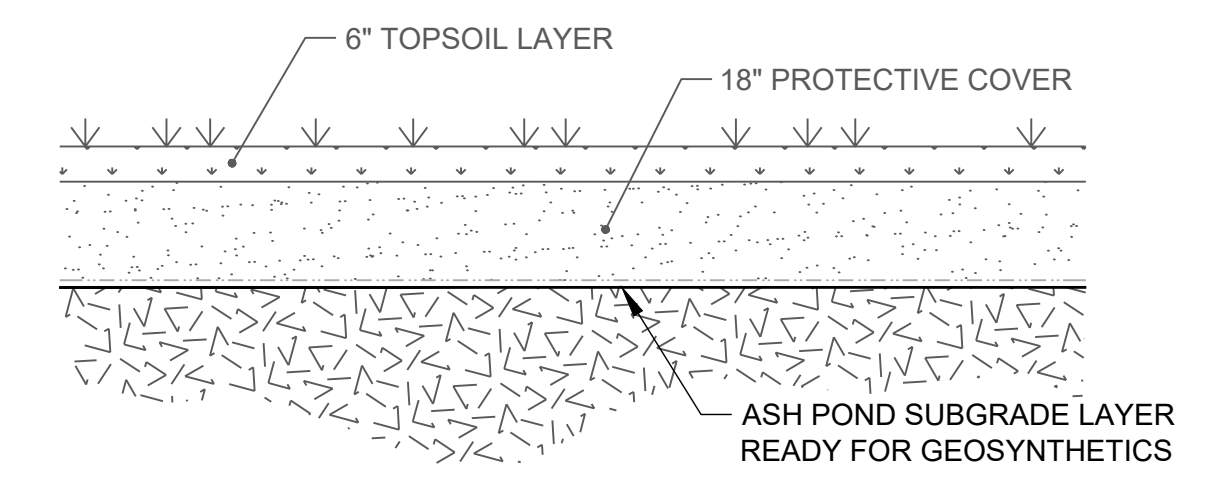


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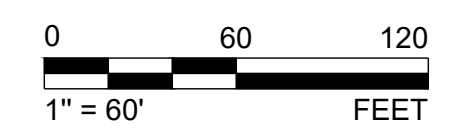
	PROPERTY BOUNDARY		APPROXIMATE LAKE ERIE WATER LINE
	OVERHEAD UTILITY		CONTROL POINT
	SUBGRADE MAJOR CONTOUR (5' INTERVAL)		MONITORING WELL
	SUBGRADE MINOR CONTOUR (1' INTERVAL)		GRADING CONTROL POINTS
	GEOSYNTHETICS PAY LIMIT		
	DRAINAGE SWALE		
	EXISTING GROUND MAJOR CONTOUR (5' INTERVAL)		
	EXISTING GROUND MINOR CONTOUR (1' INTERVAL)		
	GRADING LIMITS		

- NOTES**
- EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN.
  - SEE SHEET 6 FOR LINER SUBGRADE CONTROL POINT INFORMATION.
  - ABOVE CAP DRAINAGE PIPING SHOWN ON SHEET 5.

- REFERENCES**
- SITE LOCATION: SECTION 14, T8S, R8E, MONROE COUNTY, MICHIGAN.
  - EXISTING GROUND TOPOGRAPHY WAS PROVIDED BY SHERIDAN SURVEYING CO. ON 02/23/2017.
  - COORDINATE SYSTEM:  
VERTICAL: NGVD29.  
HORIZONTAL: MICHIGAN STATE PLANE SOUTH ZONE NAD83 (2011).
  - MONITORING WELL LOCATIONS AS PRESENTED IN: SUMMARY OF MONITORING WELL DESIGN, INSTALLATION, AND DEVELOPMENT (ARCADIS, 2016).



**RECORD DRAWING**



REFERENCE DRAWINGS	REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO	REV	DATE	DESCRIPTION	DR	BY	CK	APP	CO
									0	2/14/2020	ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099	JJS	JRP	DML	JRP	GAI

SIGNATURE  
*Jeffrey R. Piaskowski*  
NAME  
JEFFREY R. PIASKOWSKI  
MICHIGAN P.E. No.  
6201061033

**J. R. WHITING GENERATING FACILITY**  
ERIE, MI

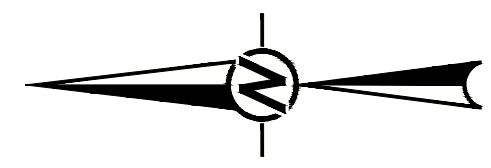
**ASH PONDS 1 & 2 LINER SUBGRADE PLAN**

SCALE: 1" = 60'

DRAWING NO. **1788523A003**

SHEET **3** OF **3**

REV. **0**

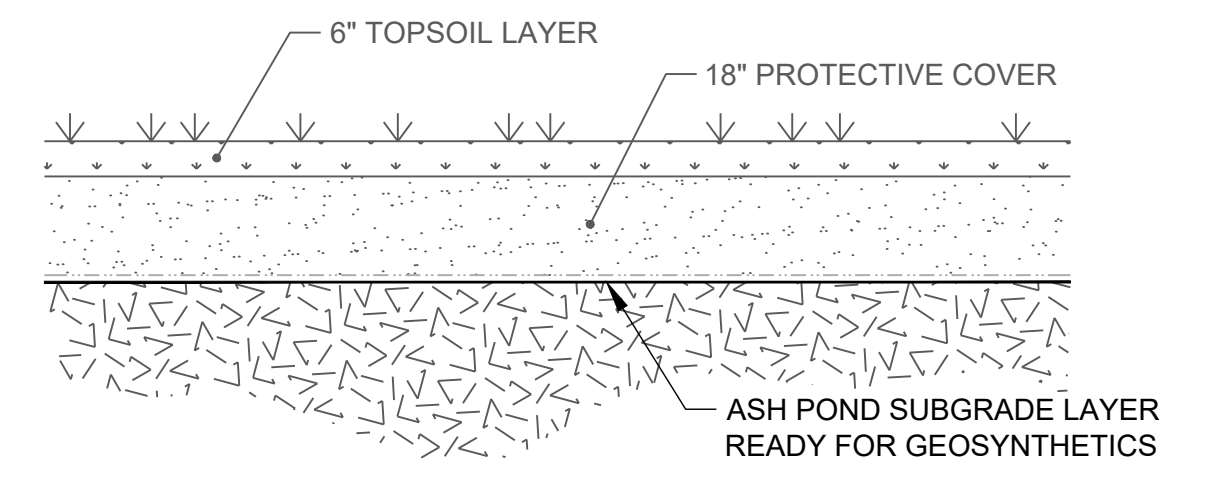


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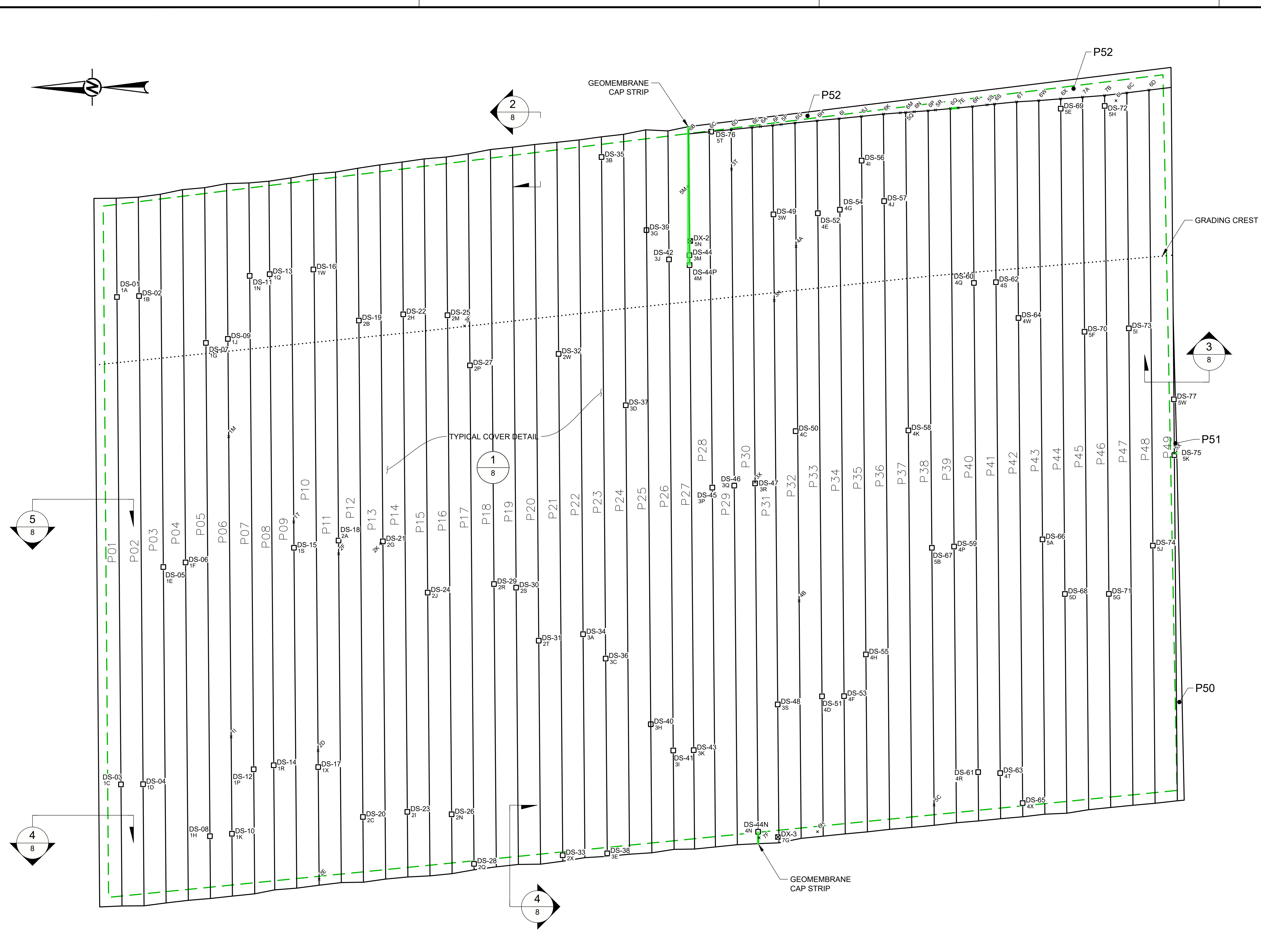
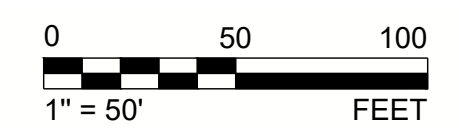
- SOLID WASTE BOUNDARY
- FUSION WELD/EDGE OF GEOMEMBRANE PANEL
- P23** LINER PANEL LABEL
- x<sup>80</sup> REPAIR LOCATION
- DS-X DESTRUCTIVE SAMPLE - FUSION
- DX-X DESTRUCTIVE SAMPLE - EXTRUSION
- CAP STRIP

- NOTE**
1. REPAIR, DESTROY, PANEL, AND LINER LIMIT LOCATIONS BASED UPON SURVEYS PERFORMED BY CHESAPEAKE CONTAINMENT SYSTEMS DURING LINER INSTALLATION.
  2. EXTRUSION DESTRUCTION SAMPLE DX-1 TAKEN FROM A TRIAL WELD.
  3. TOTAL PONDS 1 & 2 GEOMEMBRANE LINER AREA AS SHOWN = 796,576 ft<sup>2</sup>

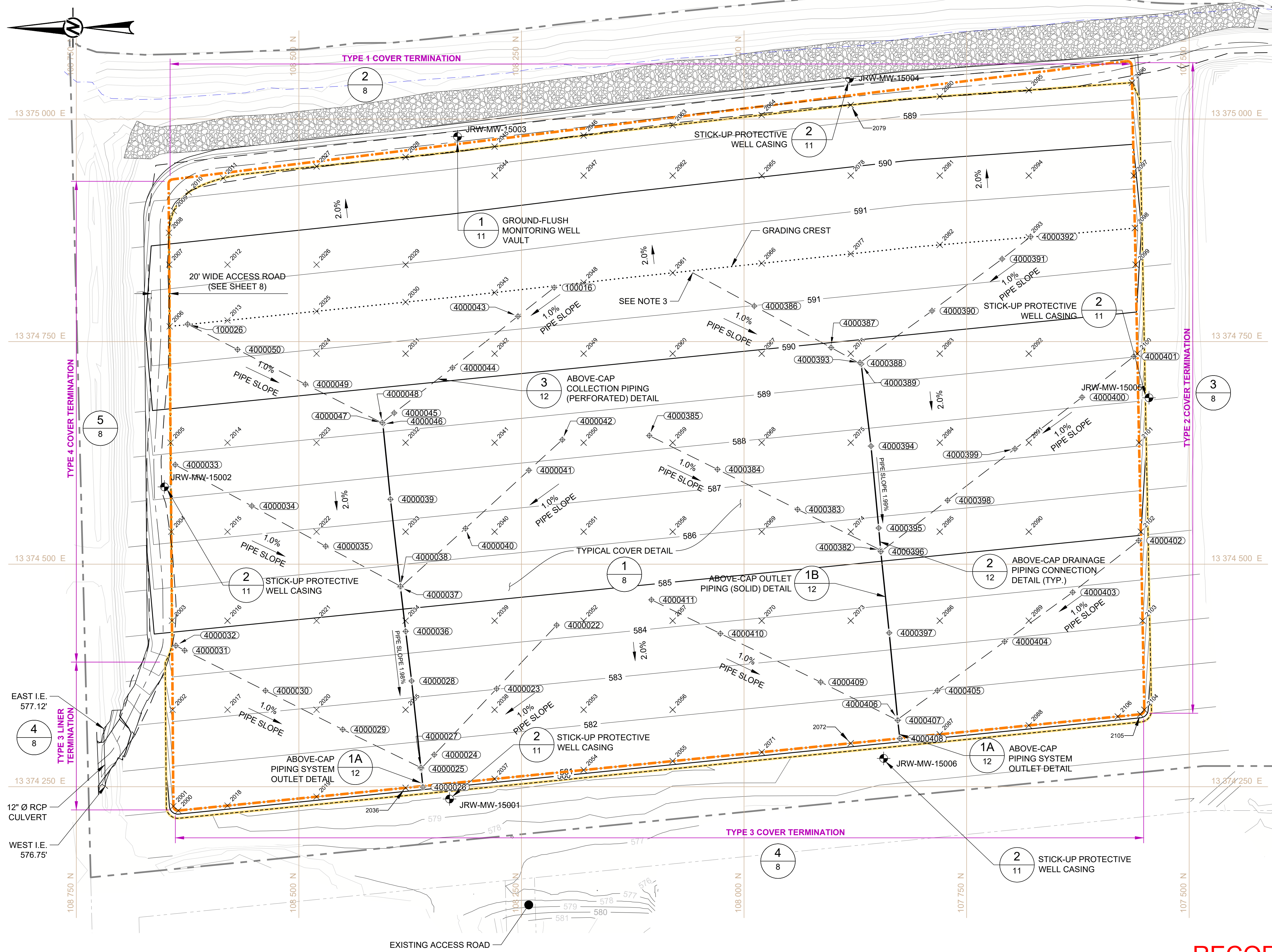
- REFERENCES**
1. SITE LOCATION: SECTION 14, T8S, R8E, MONROE COUNTY, MICHIGAN.
  2. COORDINATE SYSTEM:  
VERTICAL: NGVD29.  
HORIZONTAL: MICHIGAN STATE PLANE SOUTH ZONE NAD83 (2011).
  4. MONITORING WELL LOCATIONS AS PRESENTED IN: SUMMARY OF MONITORING WELL DESIGN, INSTALLATION, AND DEVELOPMENT (ARCADIS, 2016).
  5. SOLID WASTE BOUNDARY AS PROVIDED ELECTRONICALLY BY CONSUMERS ENERGY COMPANY.



RECORD DRAWING



										SIGNATURE  NAME JEFFREY R. PLASKOWSKI MICHIGAN P.E. No. 6201061033		 <b>J. R. WHITING GENERATING FACILITY</b> ERIE, MI		<b>GEOMEMBRANE PANEL LAYOUT</b>		
										SCALE: 1" = 50' JOB: PT-01851 & PT-02099		DRAWING NO. <b>1788523A004</b>		SHEET <b>4</b>	REV. 0	
REFERENCE DRAWINGS	REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO	REV	DATE	DESCRIPTION	DR	BY	CK	APP	CO
									A	2/14/2020	ISSUED FOR RECORD - J. R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099	JJS	JRP	DML	JRP	GAI

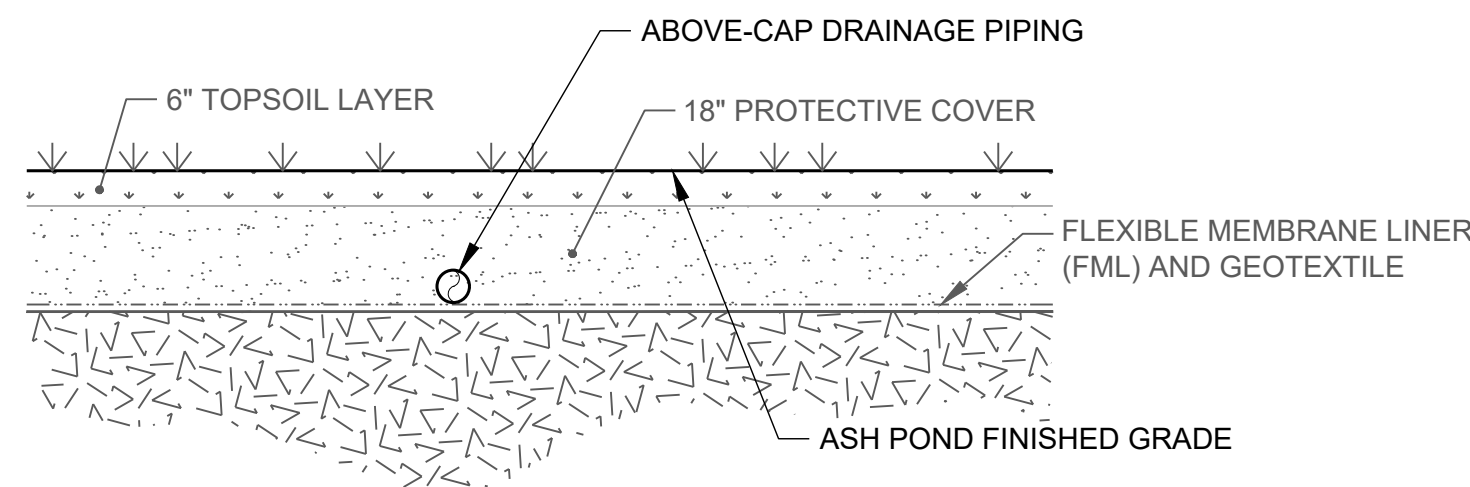


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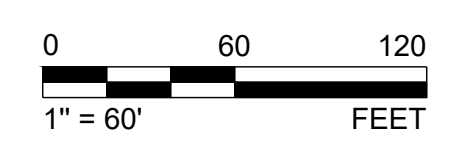
—	PROPERTY BOUNDARY	- - - - -	GRADING LIMITS
— OH — OH —	OVERHEAD UTILITY	- - - - -	LIMITS OF FINAL COVER GRADING
— 590 —	COVER MAJOR CONTOUR (5' INTERVAL)	▲	CONTROL POINT
— 589 —	COVER MINOR CONTOUR (1' INTERVAL)	⊕	MONITORING WELL
- - - - -	GEOSYNTHETICS PAY LIMIT	⊕ 1000	GRADING CONTROL POINTS
— < —	DRAINAGE SWALE	⊕ 4000XXX	ABOVE CAP DRAINAGE PIPING CONTROL POINTS
- - - - -	APPROXIMATE LAKE ERIE WATER LINE	- - - - -	4in Ø PERFORATED PIPE
— 590 —	EXISTING GROUND MAJOR CONTOUR (5' INTERVAL)	—	4in Ø SOLID PIPE
— 591 —	EXISTING GROUND MINOR CONTOUR (1' INTERVAL)		

- NOTES**
- EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN.
  - SEE SHEET 6 FOR TOP OF FINAL COVER AND ABOVE CAP DRAINAGE PIPING CONTROL POINT INFORMATION.
  - THE END OF THIS PIPE PREVIOUSLY COVERED BY COVER SOIL, THE FIELD CREW WAS UNABLE TO LOCATE THE END OF PIPE. INVERT ELEVATION AT THIS LOCATION WAS ESTIMATED BASED ON SURVEYED SUBGRADE SURFACE.

- REFERENCES**
- SITE LOCATION: SECTION 14, T8S, R8E, MONROE COUNTY, MICHIGAN.
  - EXISTING GROUND TOPOGRAPHY WAS PROVIDED BY SHERIDAN SURVEYING CO. ON 02/23/2017.
  - COORDINATE SYSTEM:  
VERTICAL: NGVD29.  
HORIZONTAL: MICHIGAN STATE PLANE SOUTH ZONE NAD83 (2011).
  - MONITORING WELL LOCATIONS AS PRESENTED IN: SUMMARY OF MONITORING WELL DESIGN, INSTALLATION, AND DEVELOPMENT (ARCADIS, 2016).

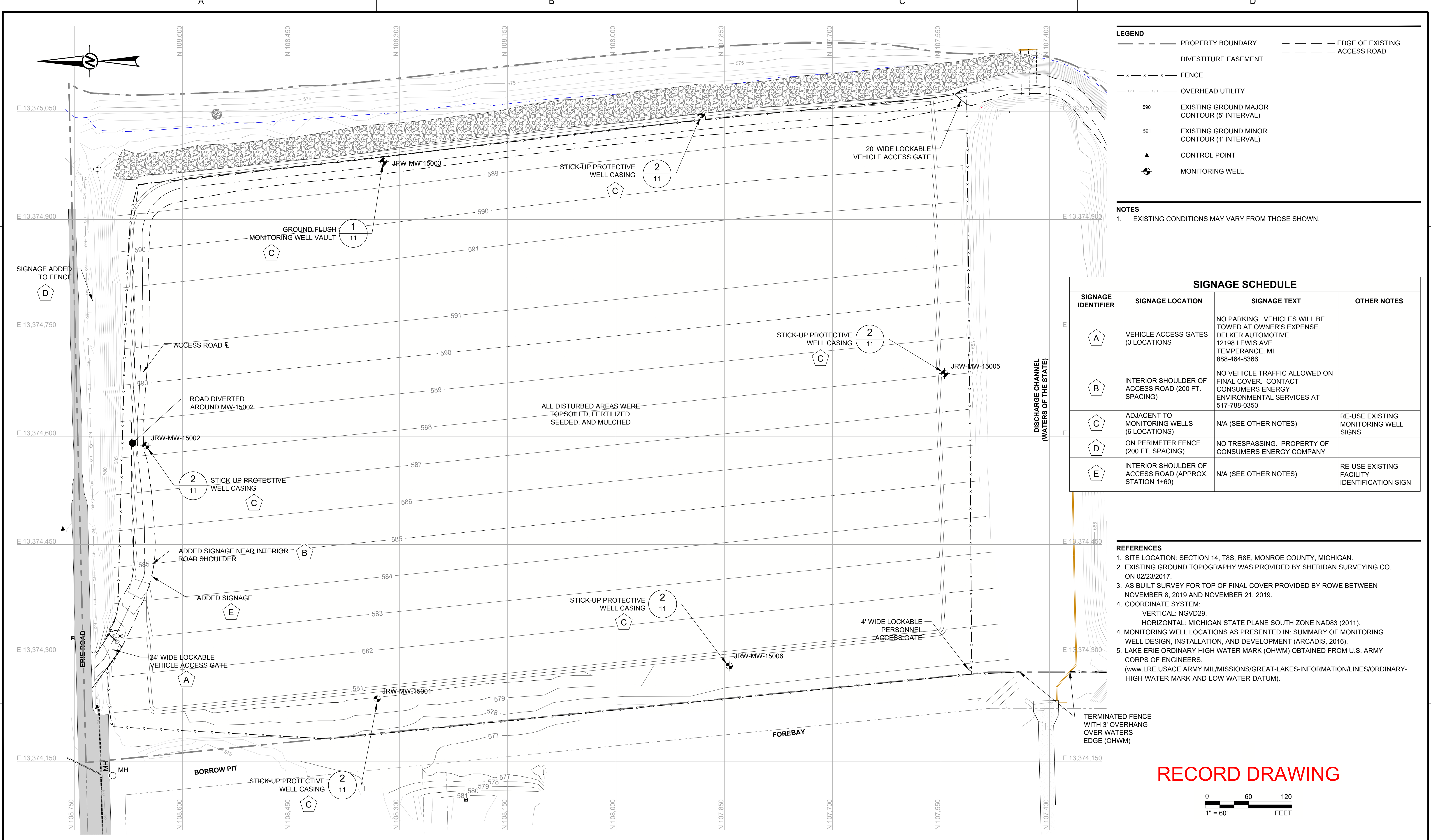


**RECORD DRAWING**



										SIGNATURE <i>Jeffrey R. Piaskowski</i>				<b>ASH PONDS 1 &amp; 2 TOP OF FINAL COVER GRADING PLAN</b>	
										NAME JEFFREY R. PIASKOWSKI					
										MICHIGAN P.E. No. 6201061033		<b>J. R. WHITING GENERATING FACILITY</b> ERIE, MI		SCALE: 1" = 60' DRAWING NO. <b>1788523A006</b>	
REFERENCE DRAWINGS: REV DATE DESCRIPTION DR BY CHK APP CO										0 2/14/2020 ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099		SHEET <b>5</b>		REV. <b>0</b>	





**LEGEND**

---	PROPERTY BOUNDARY	---	EDGE OF EXISTING ACCESS ROAD
---	DIVESTITURE EASEMENT	---	
-x-x-x-	FENCE		
OH	OVERHEAD UTILITY		
---	EXISTING GROUND MAJOR CONTOUR (5' INTERVAL)		
---	EXISTING GROUND MINOR CONTOUR (1' INTERVAL)		
▲	CONTROL POINT		
⊕	MONITORING WELL		

**NOTES**

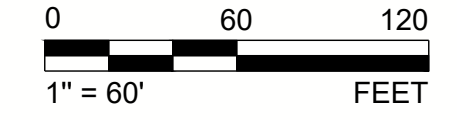
1. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN.

**SIGNAGE SCHEDULE**

SIGNAGE IDENTIFIER	SIGNAGE LOCATION	SIGNAGE TEXT	OTHER NOTES
A	VEHICLE ACCESS GATES (3 LOCATIONS)	NO PARKING. VEHICLES WILL BE TOWED AT OWNER'S EXPENSE. DELKER AUTOMOTIVE 12198 LEWIS AVE. TEMPERANCE, MI 888-464-8366	
B	INTERIOR SHOULDER OF ACCESS ROAD (200 FT. SPACING)	NO VEHICLE TRAFFIC ALLOWED ON FINAL COVER. CONTACT CONSUMERS ENERGY ENVIRONMENTAL SERVICES AT 517-788-0350	
C	ADJACENT TO MONITORING WELLS (6 LOCATIONS)	N/A (SEE OTHER NOTES)	RE-USE EXISTING MONITORING WELL SIGNS
D	ON PERIMETER FENCE (200 FT. SPACING)	NO TRESPASSING. PROPERTY OF CONSUMERS ENERGY COMPANY	
E	INTERIOR SHOULDER OF ACCESS ROAD (APPROX. STATION 1+60)	N/A (SEE OTHER NOTES)	RE-USE EXISTING FACILITY IDENTIFICATION SIGN

- REFERENCES**
- SITE LOCATION: SECTION 14, T8S, R8E, MONROE COUNTY, MICHIGAN.
  - EXISTING GROUND TOPOGRAPHY WAS PROVIDED BY SHERIDAN SURVEYING CO. ON 02/23/2017.
  - AS BUILT SURVEY FOR TOP OF FINAL COVER PROVIDED BY ROWE BETWEEN NOVEMBER 8, 2019 AND NOVEMBER 21, 2019.
  - COORDINATE SYSTEM:  
VERTICAL: NGVD29.  
HORIZONTAL: MICHIGAN STATE PLANE SOUTH ZONE NAD83 (2011).
  - MONITORING WELL LOCATIONS AS PRESENTED IN: SUMMARY OF MONITORING WELL DESIGN, INSTALLATION, AND DEVELOPMENT (ARCADIS, 2016).
  - LAKE ERIE ORDINARY HIGH WATER MARK (OHWM) OBTAINED FROM U.S. ARMY CORPS OF ENGINEERS. (www.LRE.USACE.ARMY.MIL/MISSIONS/GREAT-LAKES-INFORMATION/LINES/ORDINARY-HIGH-WATER-MARK-AND-LOW-WATER-DATUM).

**RECORD DRAWING**



REFERENCE DRAWINGS	REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO	REV	DATE	DESCRIPTION	DR	BY	CK	APP	CO
	A	2/14/2020	ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099		JJS	JRP	DML	JRP	GAI							

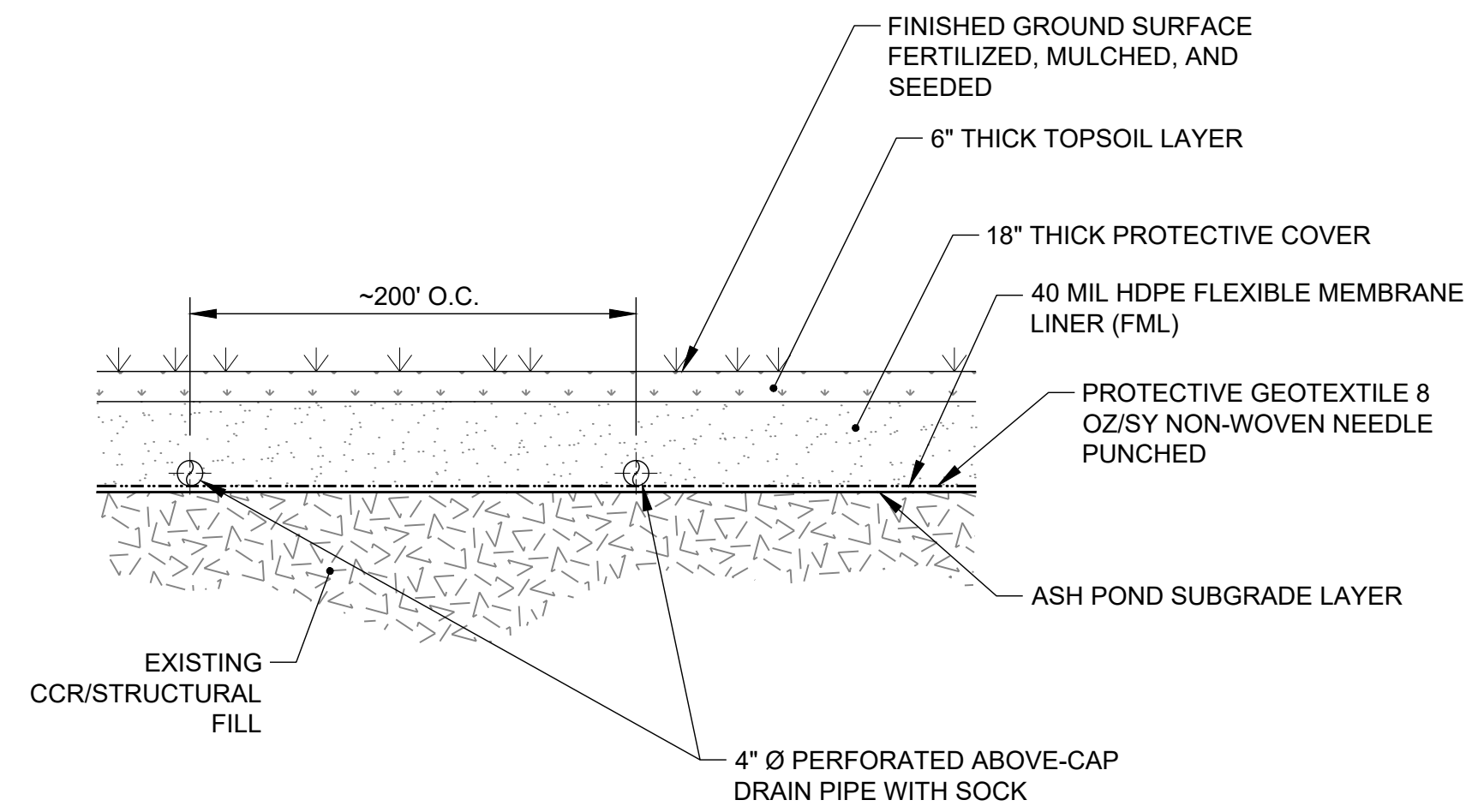
SIGNATURE  
*Jeffrey R. Piaskowski*  
NAME  
JEFFREY R. PIASKOWSKI  
MICHIGAN P.E. No. 6201061033

**Consumers Energy**

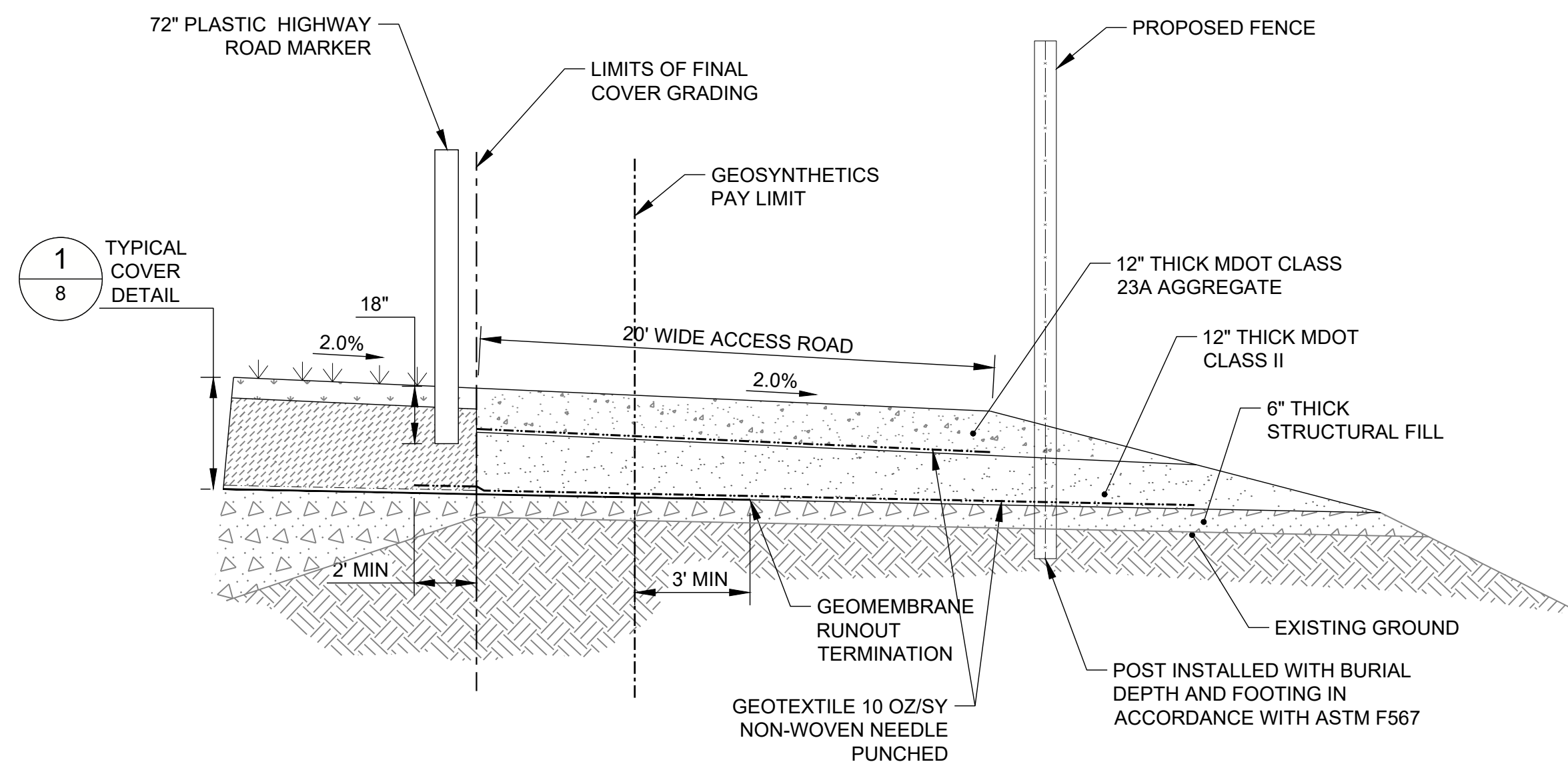
**J. R. WHITING GENERATING FACILITY**  
ERIE, MI

**FINAL RESTORATION PLAN**

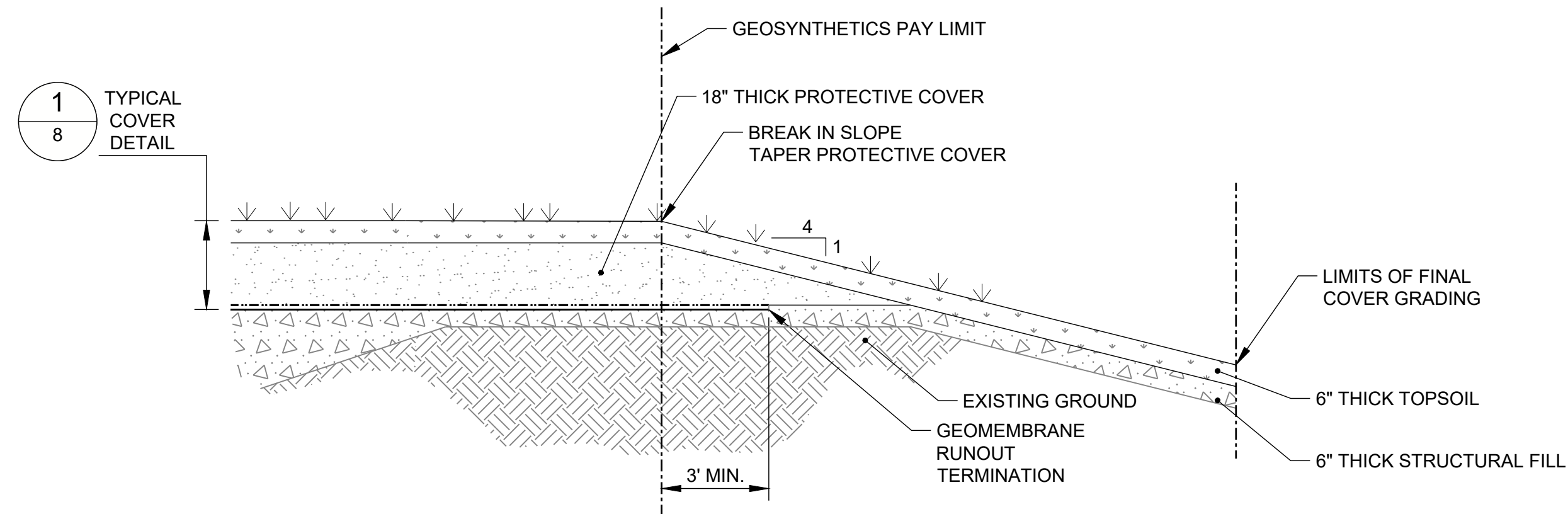
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JOB: PT-01851 & PT-02099			



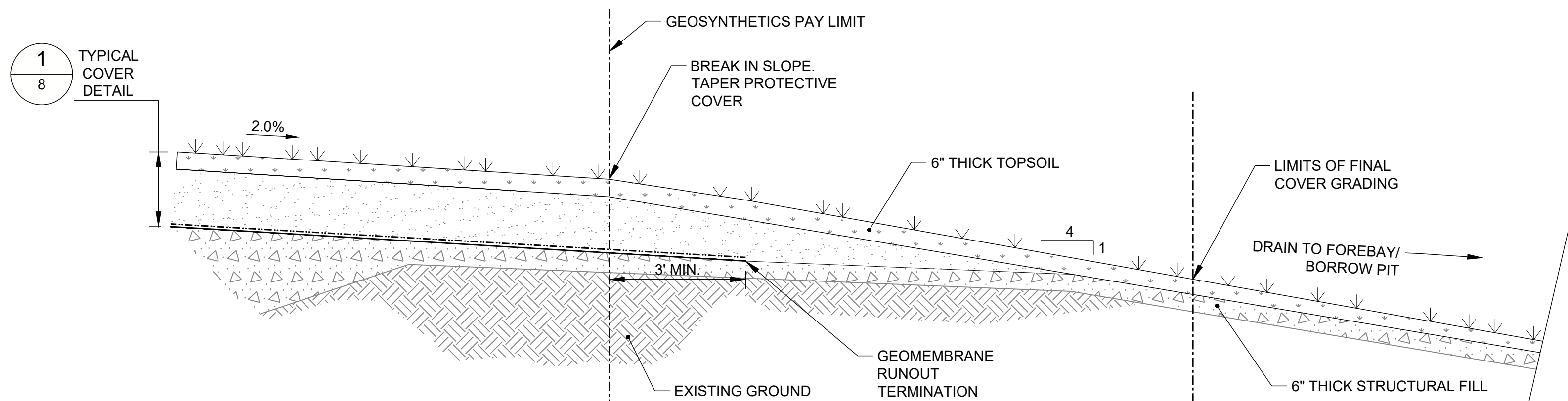
NOT TO SCALE **1** TYPICAL COVER DETAIL  
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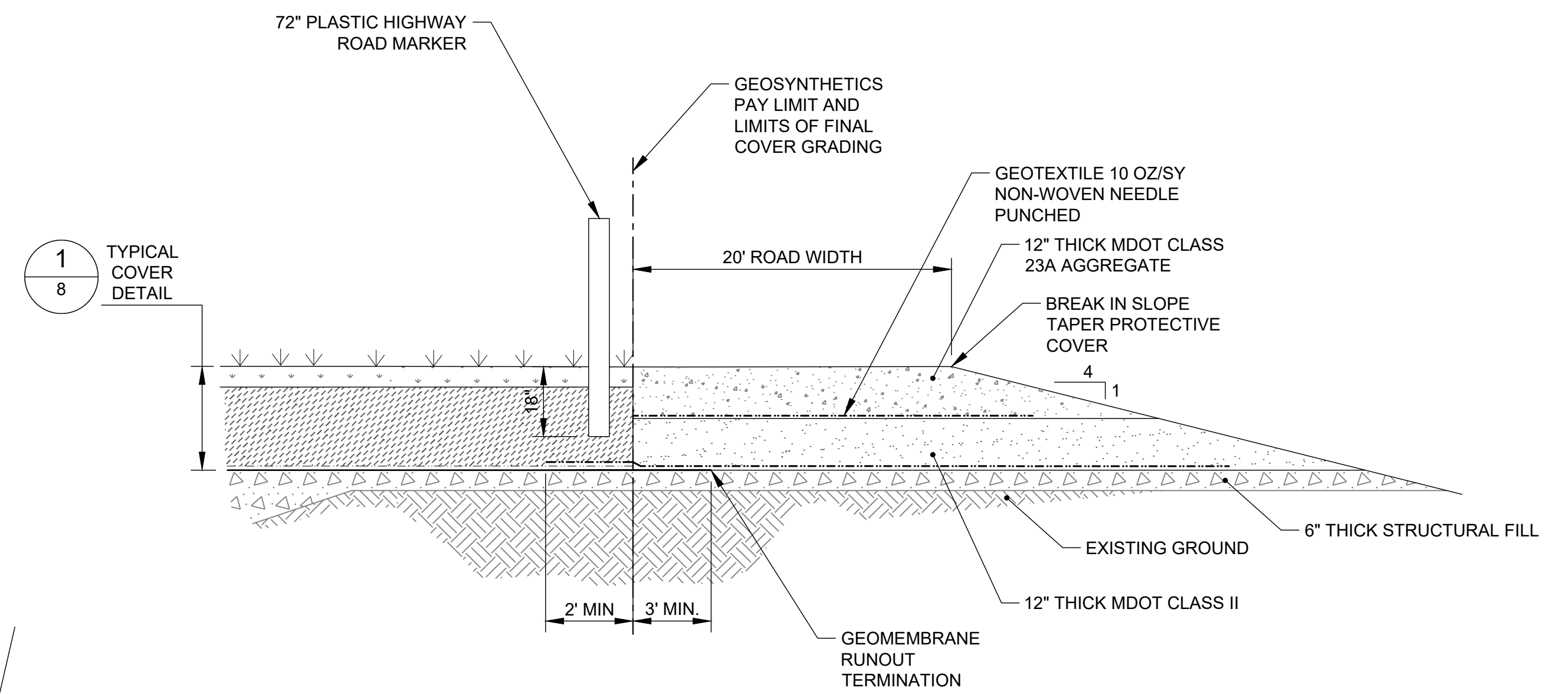
NOT TO SCALE **2** TYPICAL TYPE 1 COVER TERMINATION DETAIL  
8



NOT TO SCALE **3** TYPICAL TYPE 2 COVER TERMINATION DETAIL  
8



NOT TO SCALE **4** TYPICAL TYPE 3 COVER TERMINATION DETAIL  
8



NOT TO SCALE **5** TYPICAL TYPE 4 COVER TERMINATION DETAIL  
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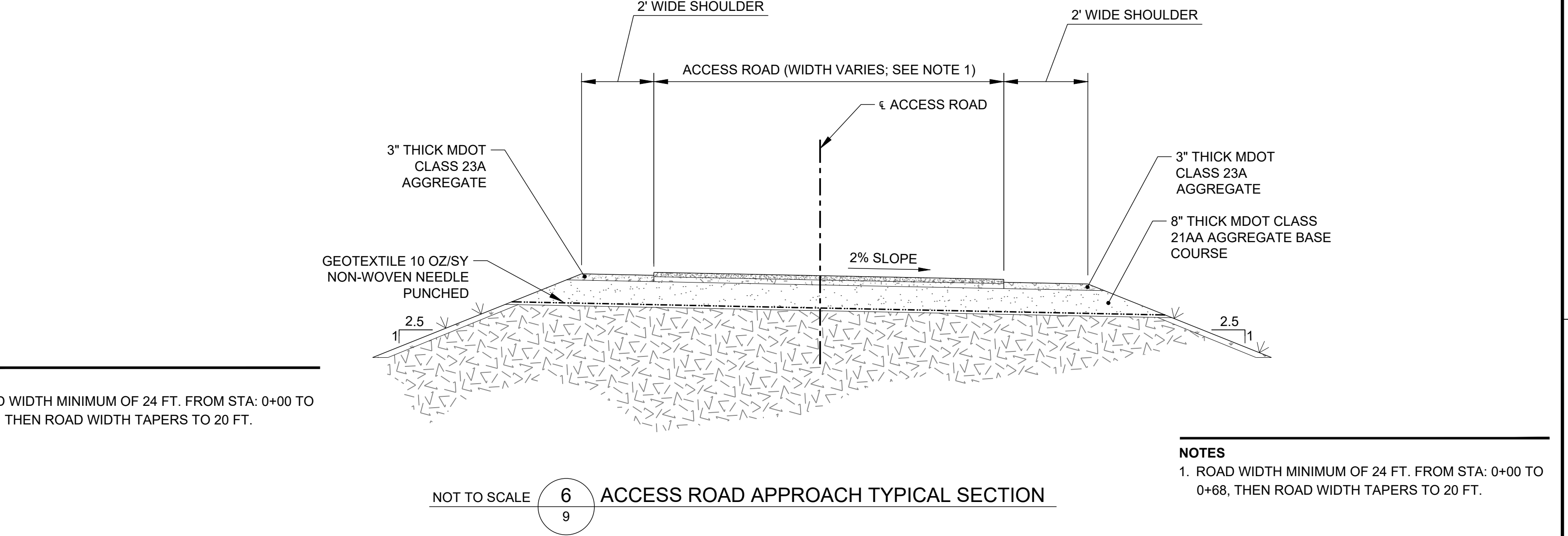
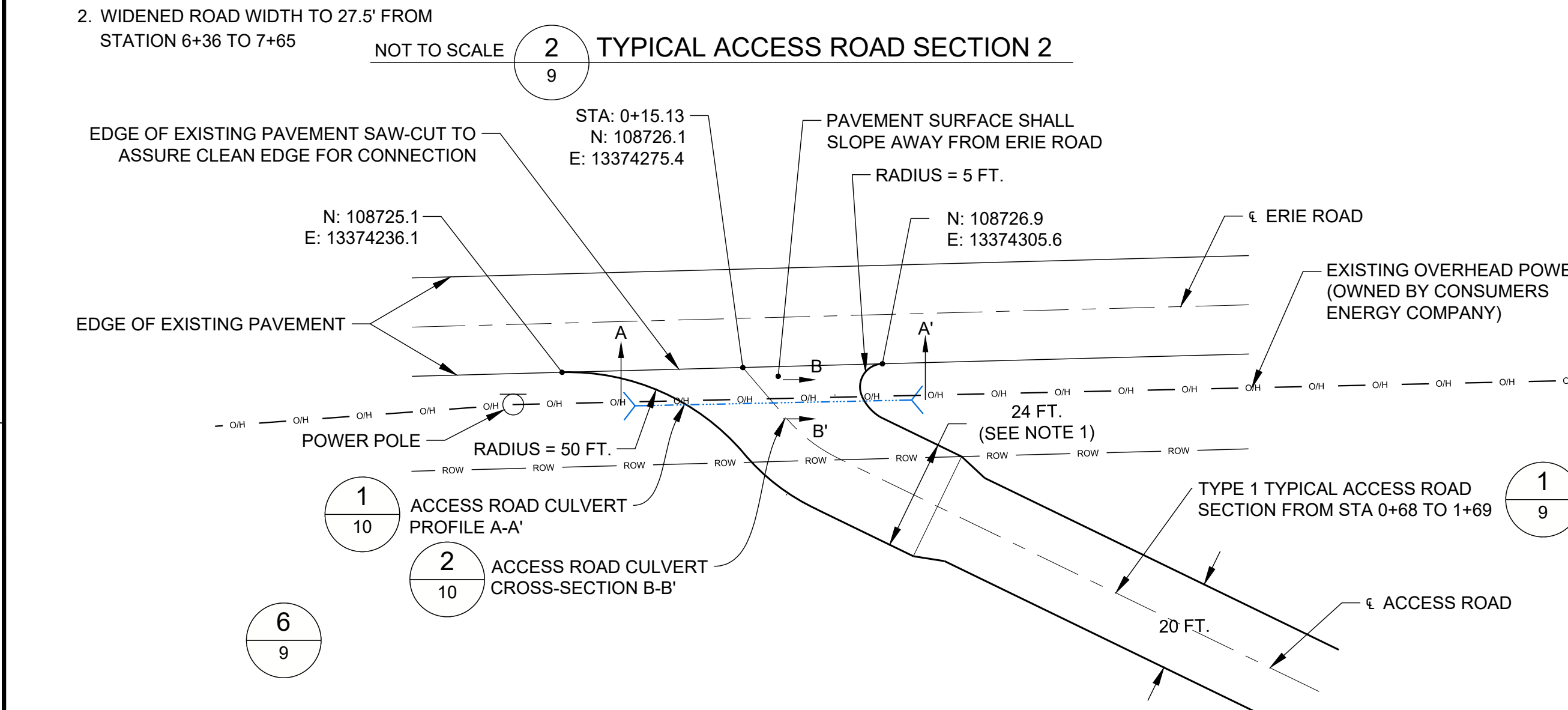
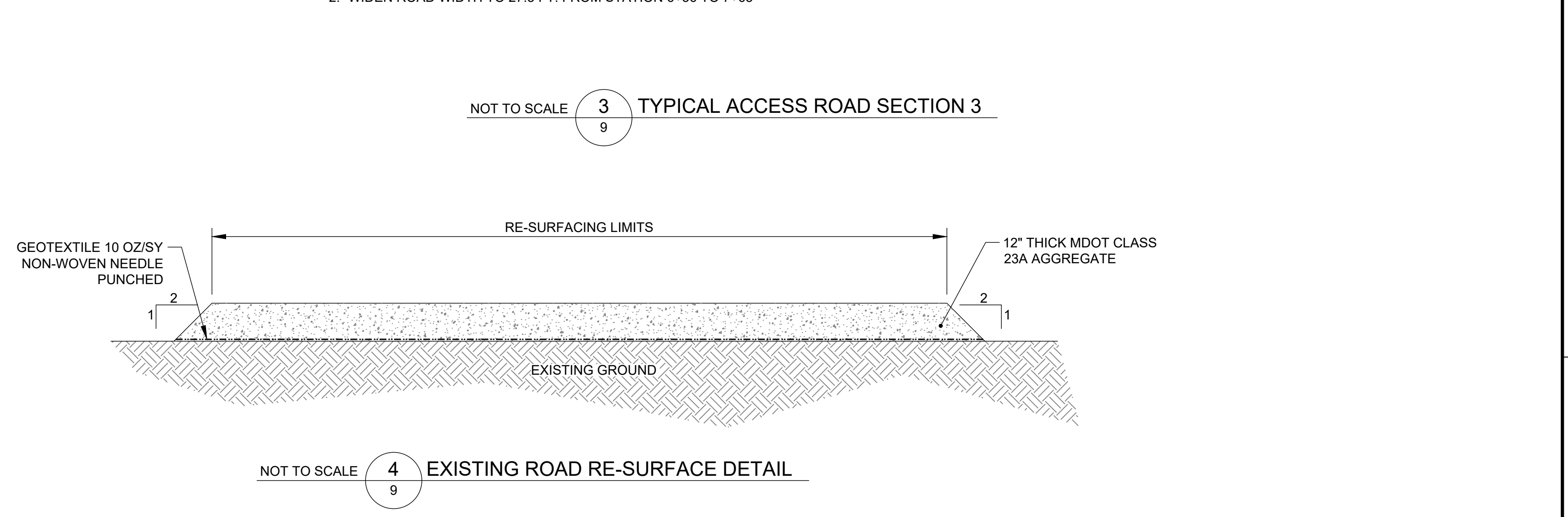
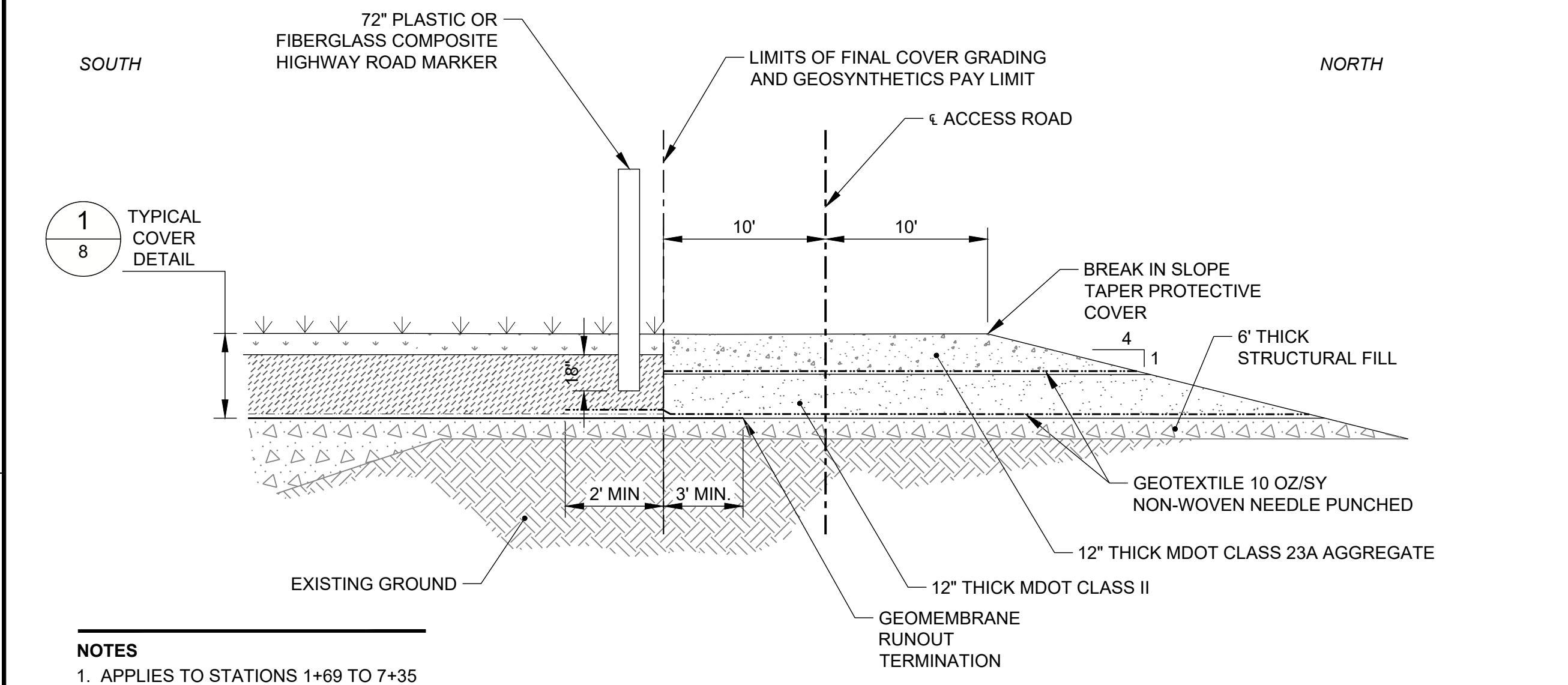
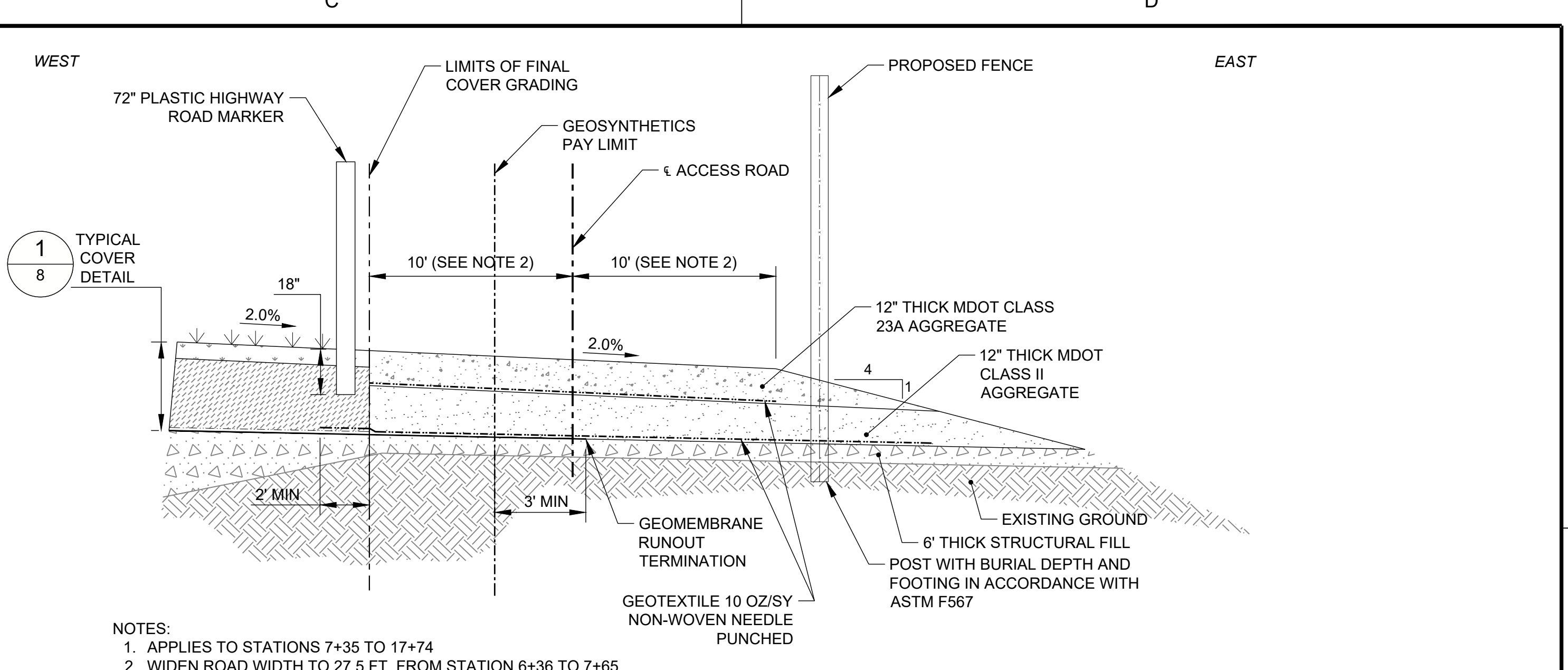
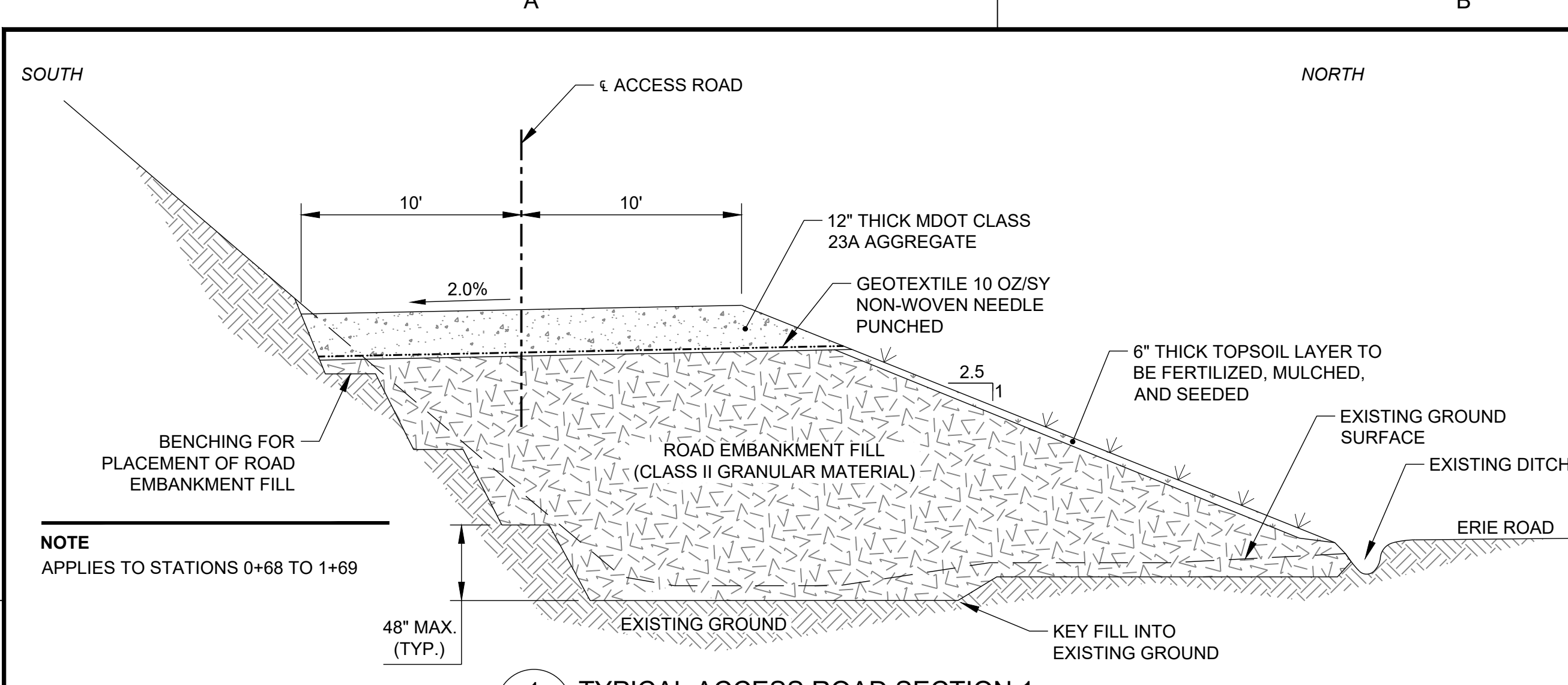
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									A	2/14/2020	ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099		JJS	JRP	DML	JRP	GAI

SIGNATURE  
*Jeffrey R. Piaskowski*  
NAME  
JEFFREY R. PIASKOWSKI  
MICHIGAN P.E. No.  
6201061033

**J. R. WHITING GENERATING FACILITY**  
ERIE, MI

FINAL COVER AND BERM DETAILS		SCALE:	NONE	DRAWING NO.	1788523A009	SHEET	8	REV.	0
		JOB:	PT-01851 & PT-02099						



REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO
A	2/14/2020	ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099					

REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO

SIGNATURE  NAME JEFFREY R. PLASKOWSKI MICHIGAN P.E. No. 6201061033		 <b>J. R. WHITING GENERATING FACILITY</b> ERIE, MI	<b>ACCESS ROAD DETAILS</b>	
SCALE: NONE JOB: PT-01851 & PT-02099	DRAWING NO. <b>1788523A011</b>		SHEET <b>9</b>	REV. 0

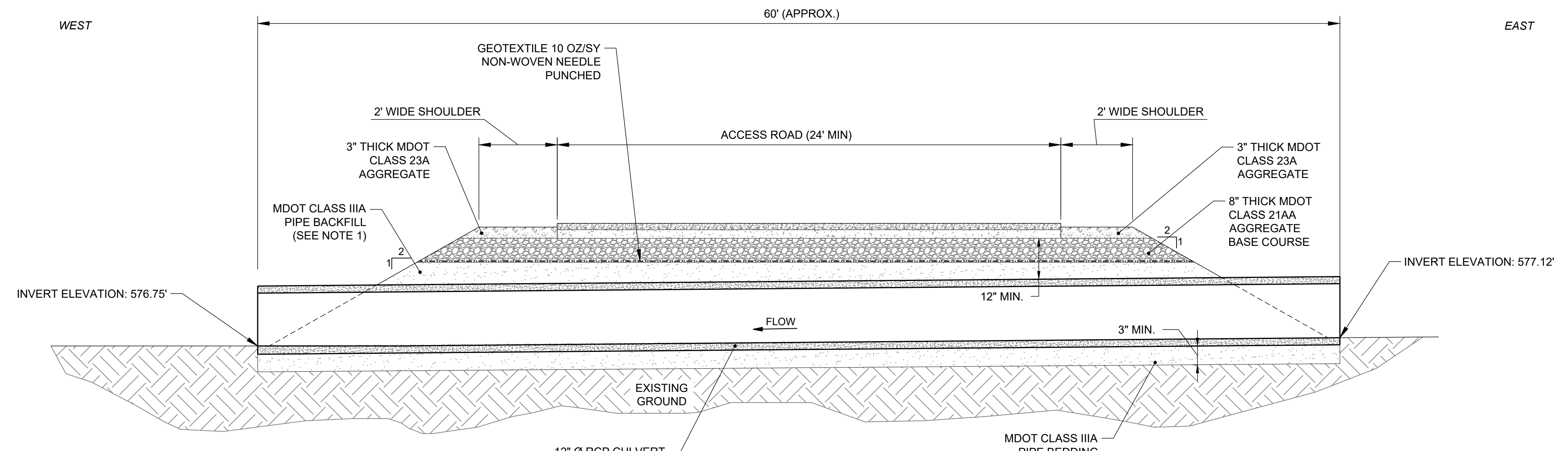


A

B

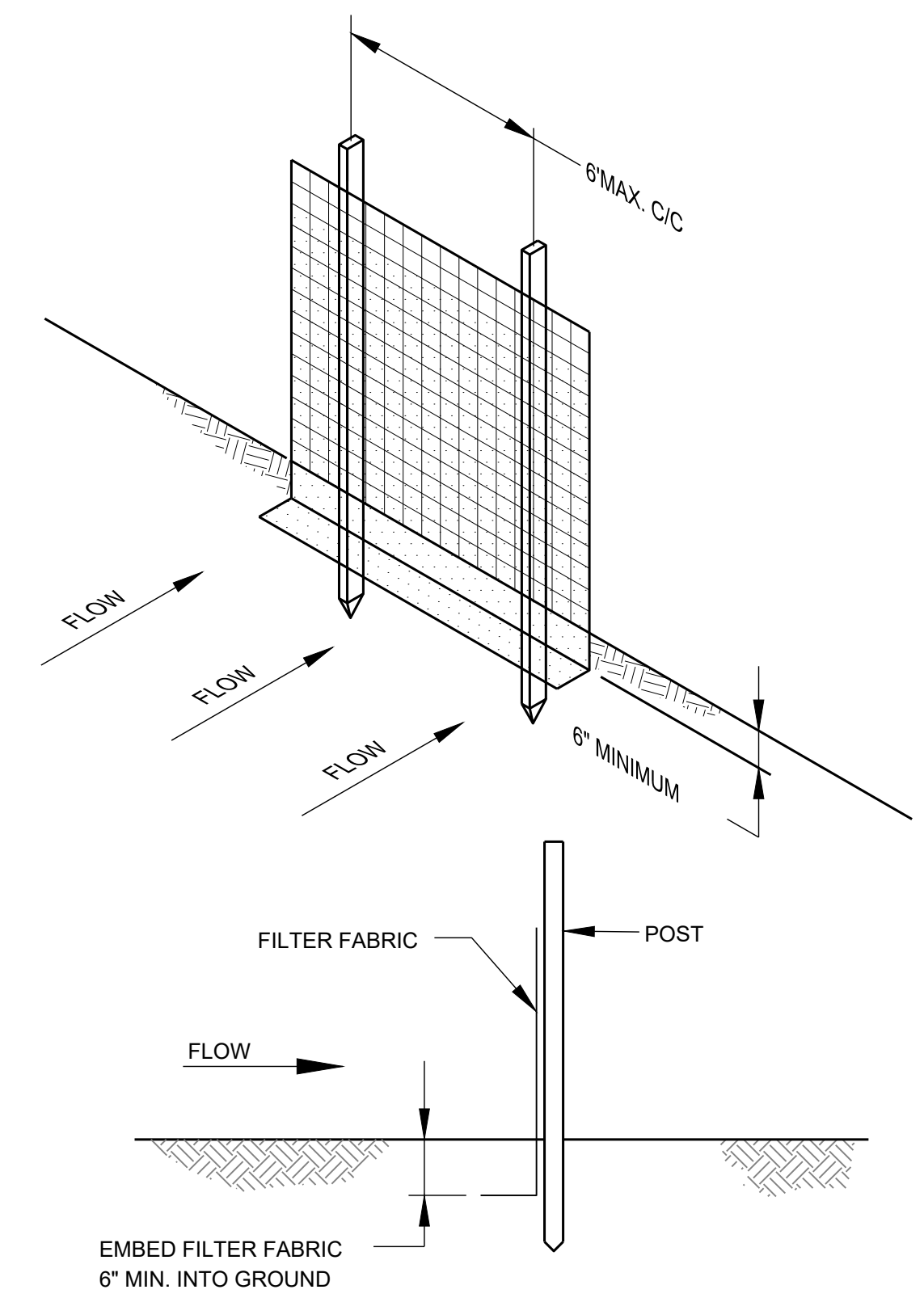
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D

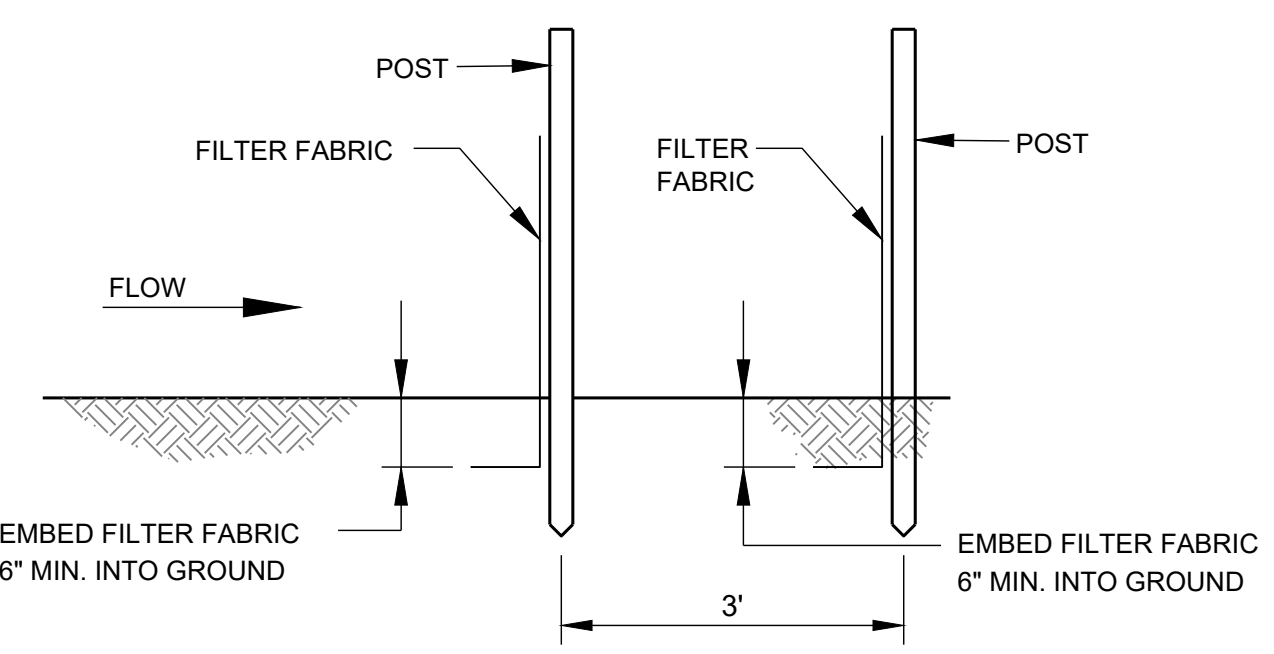


NOT TO SCALE **1** ACCESS ROAD CULVERT PROFILE A-A'

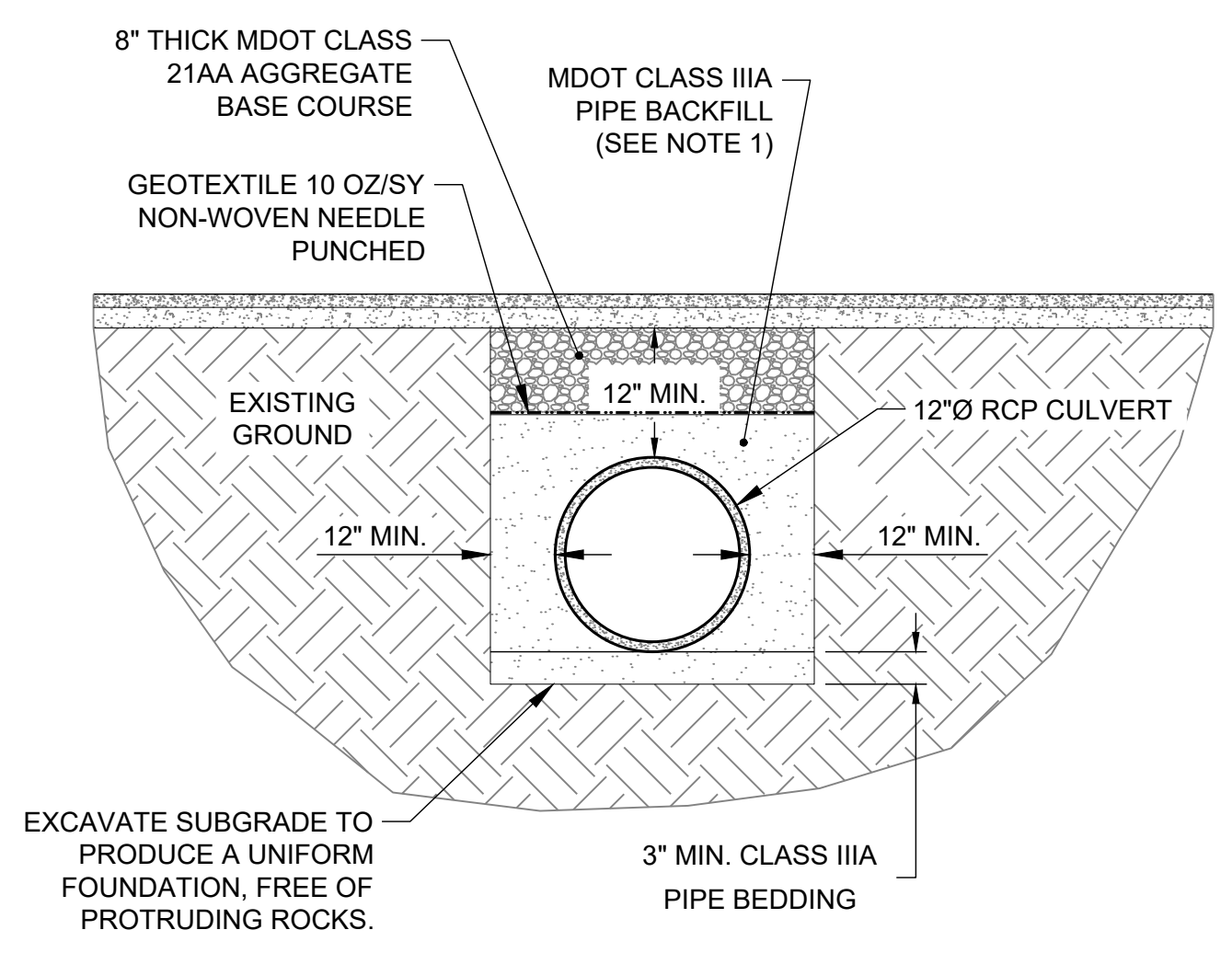
**NOTES**  
 1. NO BACKFILL SHALL BE PLACED OVER THE CULVERT UNTIL THE CULVERT INSTALLATION HAS BEEN ACCEPTED BY MONROE COUNTY ROAD COMMISSION.



NOT TO SCALE **3** TYPICAL SILT FENCE DETAIL



NOT TO SCALE **4** TYPICAL DOUBLE SILT FENCE DETAIL



NOT TO SCALE **2** ACCESS ROAD CULVERT PROFILE B-B'

**RECORD DRAWING**

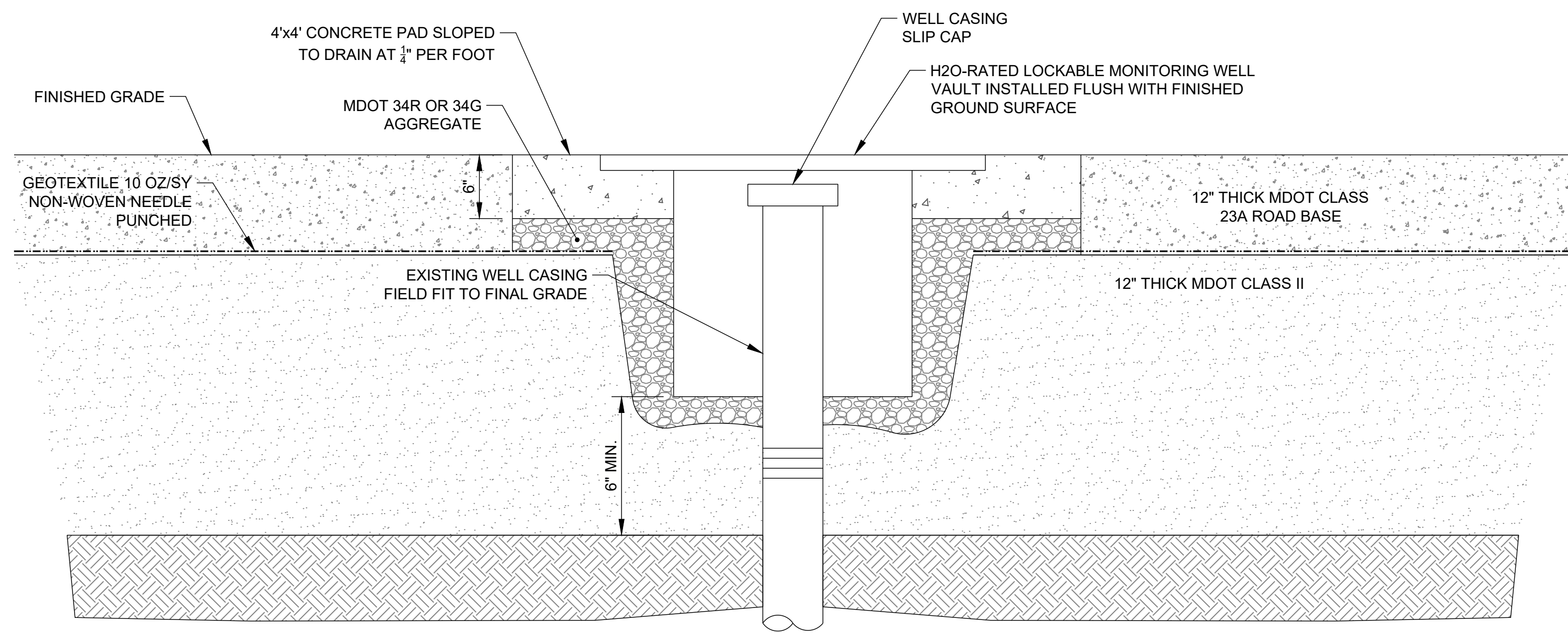
										SIGNATURE  NAME JEFFREY R. PIASKOWSKI MICHIGAN P.E. No. 6201061033					 <b>J. R. WHITING GENERATING FACILITY</b> ERIE, MI					<b>STORM WATER MANAGEMENT DETAILS</b> SCALE: NONE DRAWING NO. <b>1788523A012</b> SHEET <b>10</b> REV. <b>0</b> JOB: PT-01851 & PT-02099				
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									A	2/14/2020	ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099	JJS	JRP	DML	JRP	GAI								

A

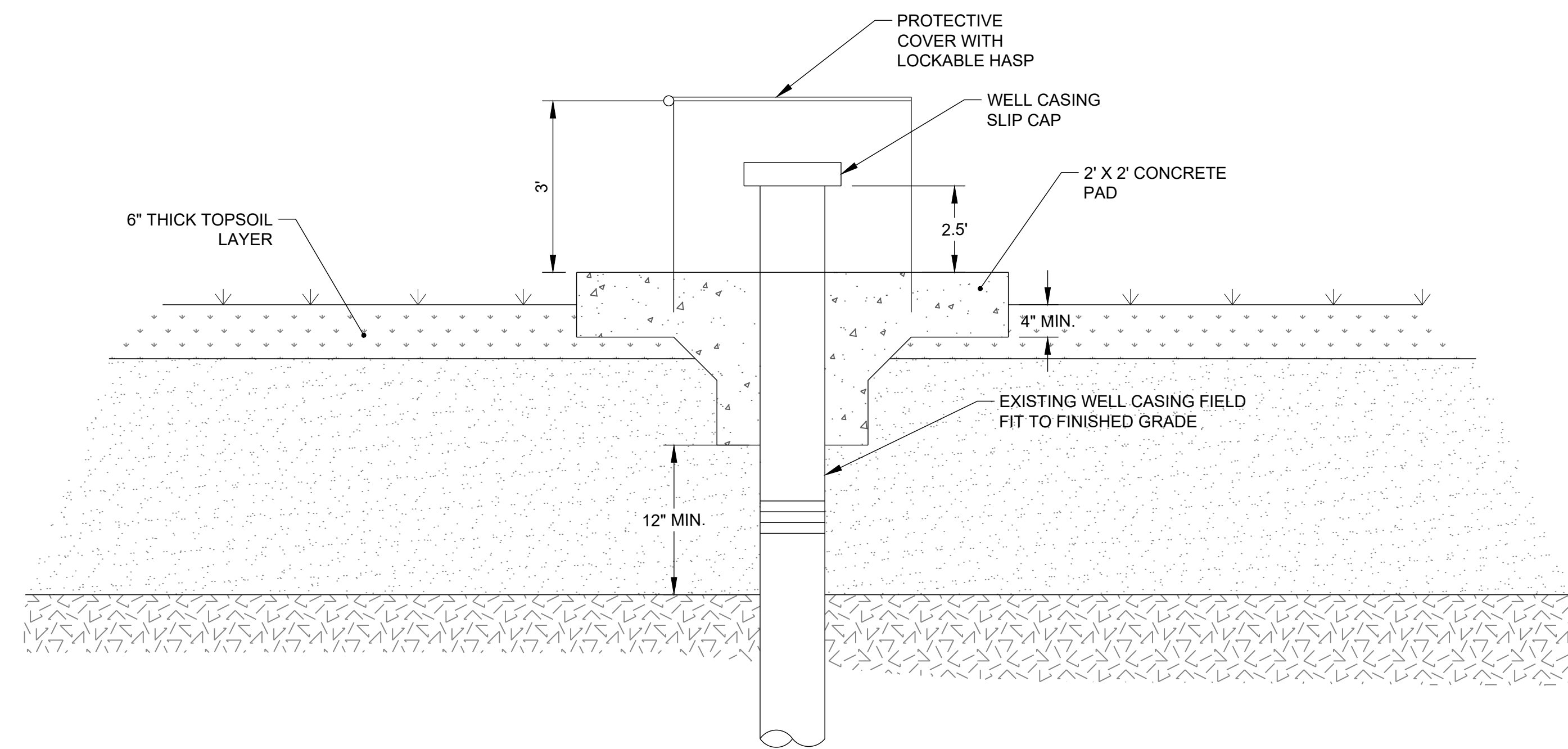
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C

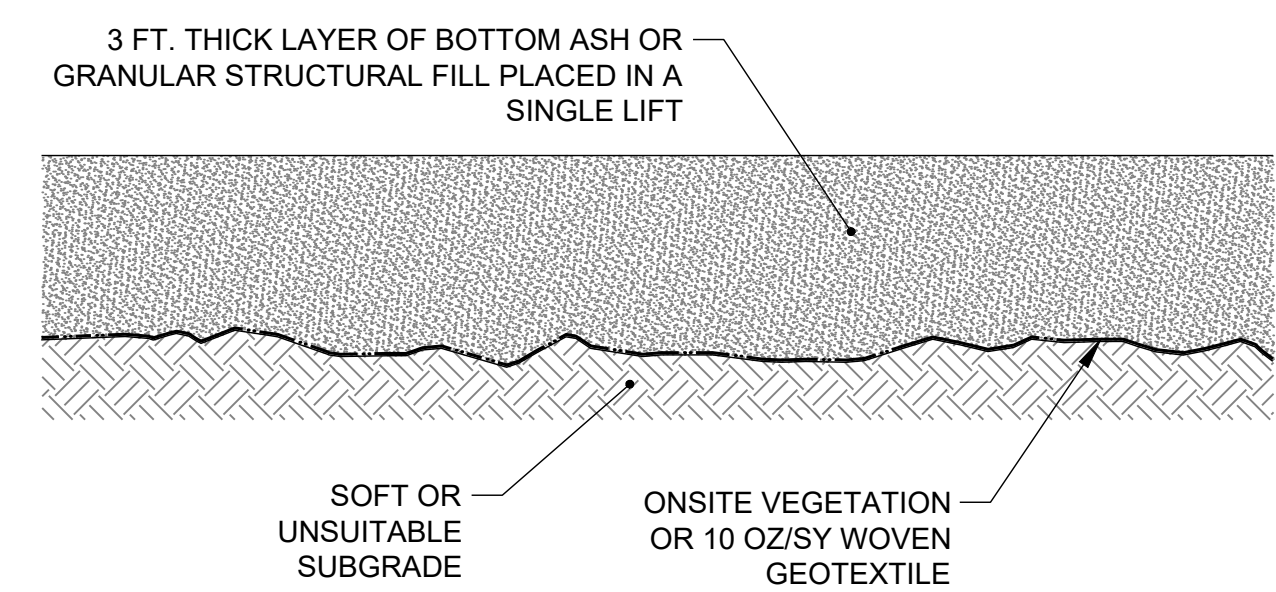
D



NOT TO SCALE **1** GROUND-FLUSH MONITORING WELL VAULT  
11



NOT TO SCALE **2** STICK-UP PROTECTIVE WELL CASING  
11



NOT TO SCALE **4** TYPICAL BRIDGING LAYER DETAIL  
11

**RECORD DRAWING**

										SIGNATURE  NAME JEFFREY R. PIASKOWSKI MICHIGAN P.E. No. 6201061033					 <b>J. R. WHITING GENERATING FACILITY</b> ERIE, MI					MISCELLANEOUS DETAILS				
REFERENCE DRAWINGS	REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO	REV	DATE	DESCRIPTION	DR	BY	CK						APP	CO	SCALE:	NONE	DRAWING NO.
										A 2/14/2020 ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099 JJS JRP DML JRP GAI										JOB: PT-01851 & PT-02099				

A

B

C

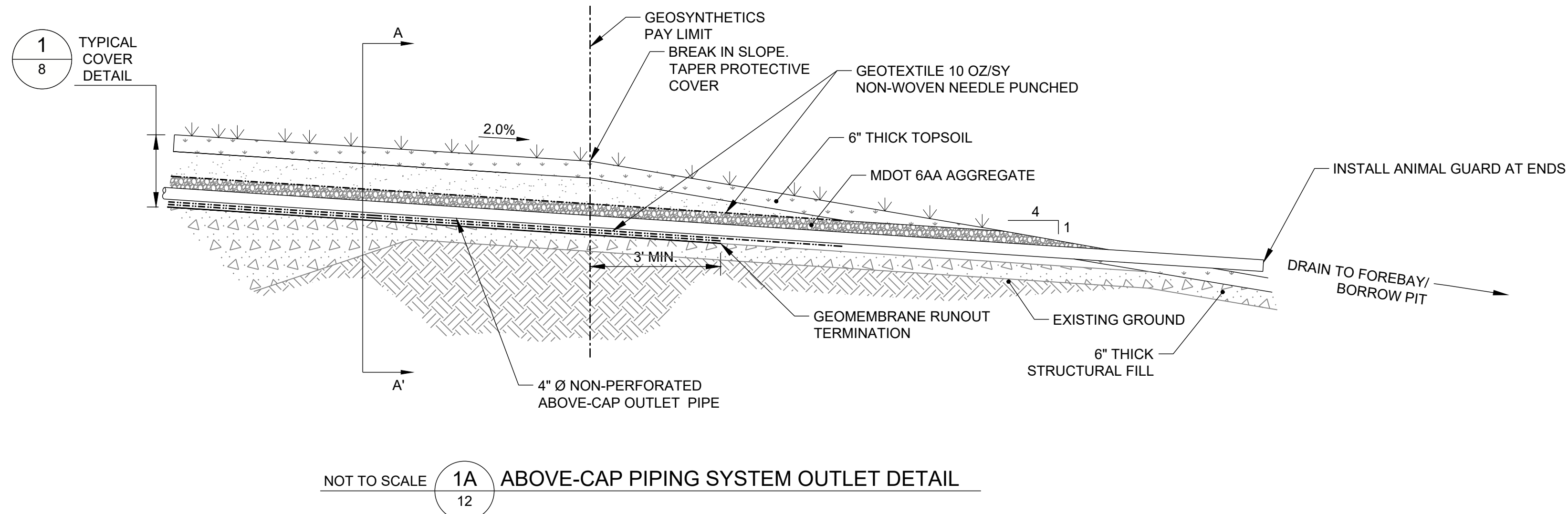
D

A

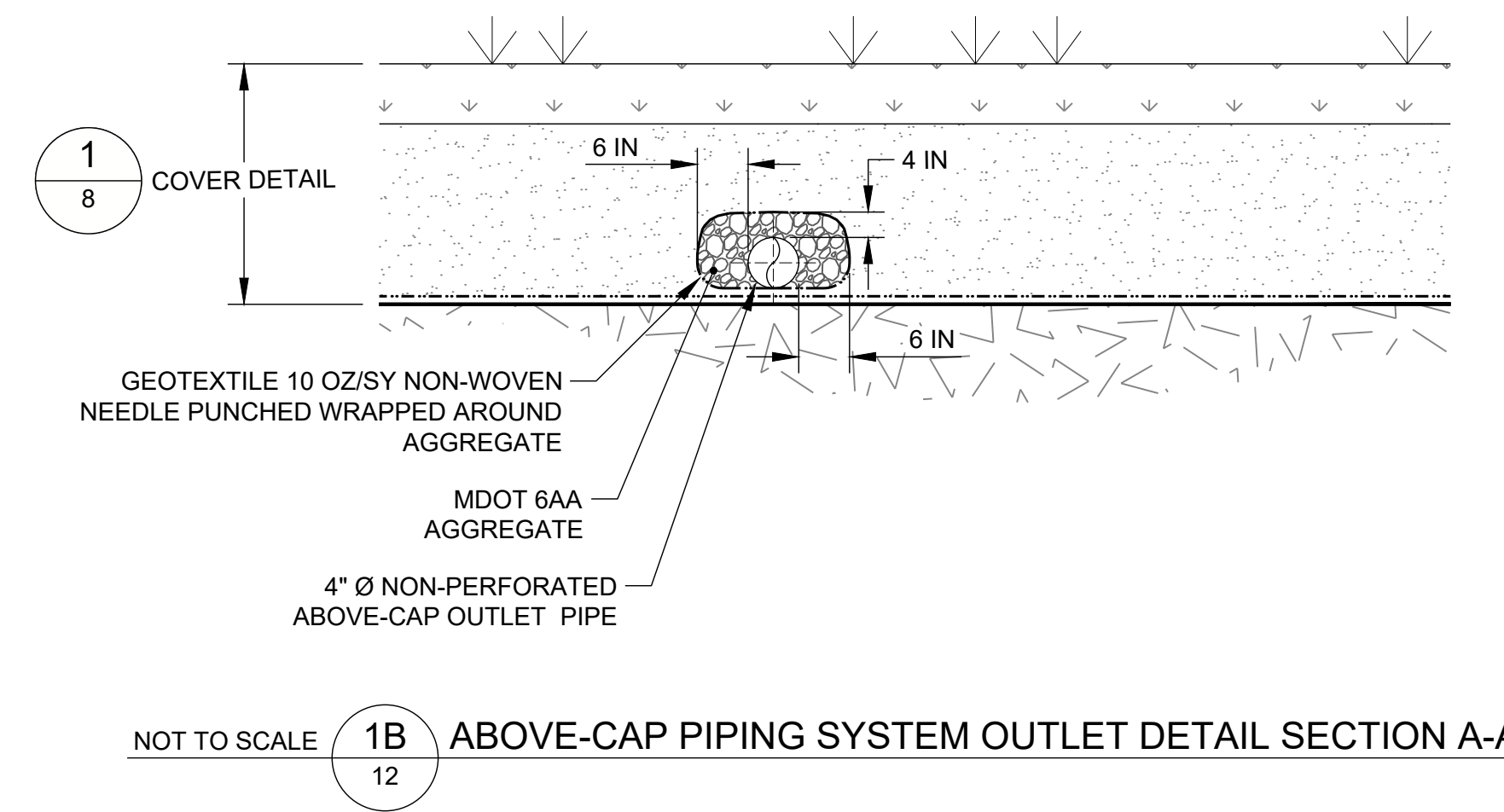
B

C

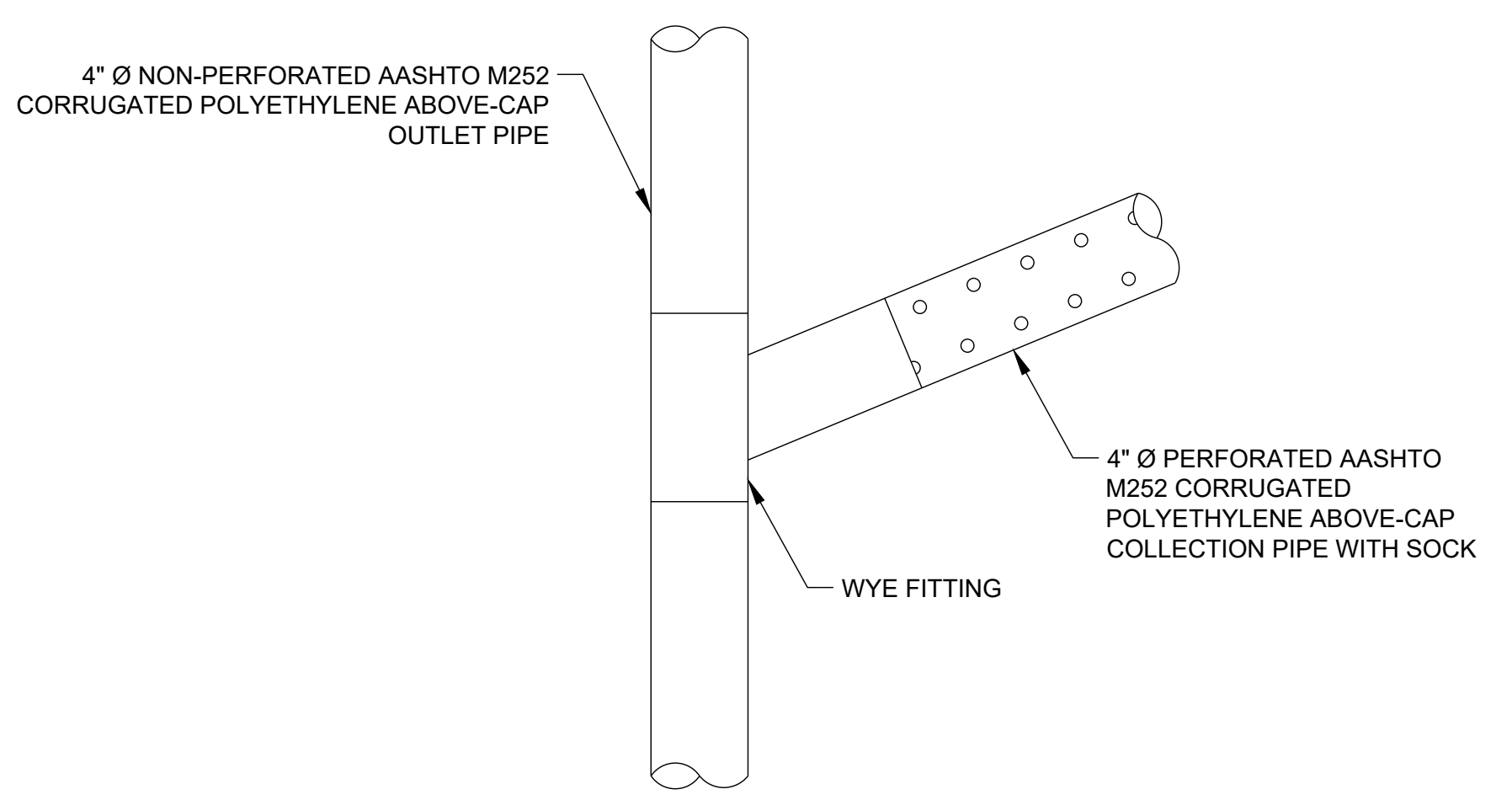
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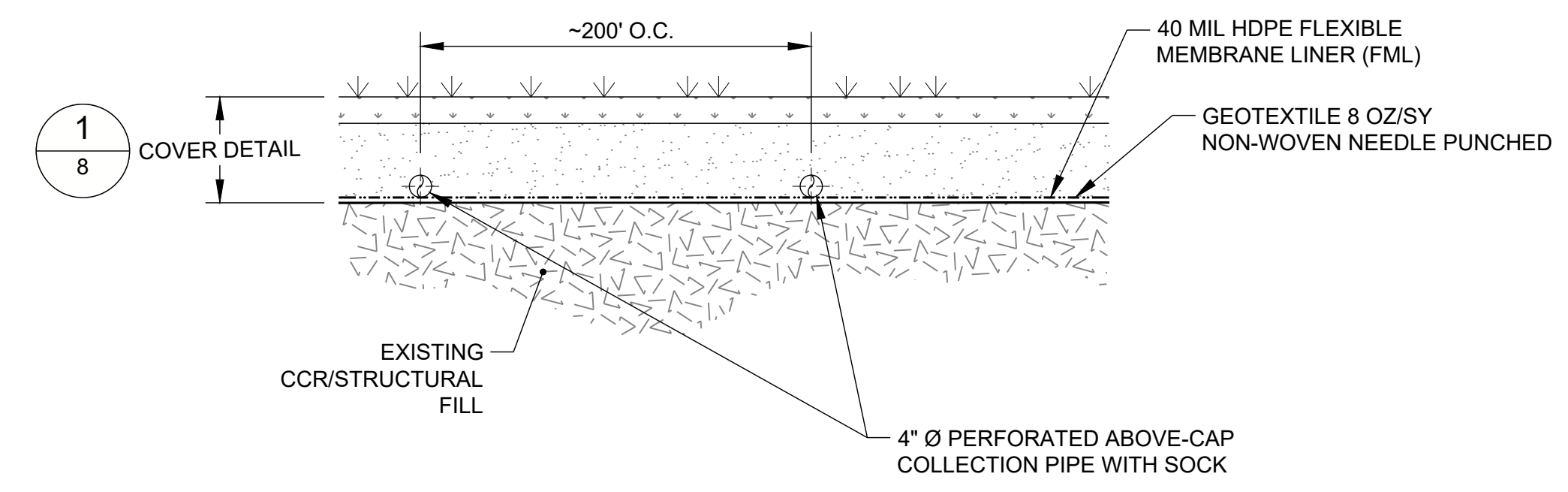
NOT TO SCALE **1A** ABOVE-CAP PIPING SYSTEM OUTLET DETAIL  
12



NOT TO SCALE **1B** ABOVE-CAP PIPING SYSTEM OUTLET DETAIL SECTION A-A'  
12





NOT TO SCALE **2** ABOVE-CAP DRAINAGE PIPING SYSTEM CONNECTION DETAIL  
12



NOT TO SCALE **3** ABOVE-CAP COLLECTION PIPING DETAIL  
12

**RECORD DRAWING**

										SIGNATURE  NAME JEFFREY R. PIASKOWSKI MICHIGAN P.E. No. 6201061033					 <b>J. R. WHITING GENERATING FACILITY</b> ERIE, MI					<b>ABOVE-CAP DRAINAGE COLLECTION PIPING DETAILS</b>				
REFERENCE DRAWINGS	REV	DATE	DESCRIPTION	DR	BY	CHK	APP	CO	REV	DATE	DESCRIPTION	DR	BY	CK	APP	CO	SCALE:	NONE	DRAWING NO.	1788523A014	SHEET	12	REV.	0
										A 2/14/2020 ISSUED FOR RECORD - J.R. WHITING ASH PONDS 1 & 2 CLOSURE - PT 01851 & PT-02099 JJS JRP DML JRP GAI					JOB: PT-01851 & PT-02099									

**APPENDIX B**

## Project Information

**APPENDIX B.1**

## Golder Personnel

**Table B.1: J.R. Whiting Ponds 1 and 2 CQA - Golder Personnel**

CQA Team Member	Role	Initials
Tiffany Johnson, P.E.	Project Director	TDJ
Jeff Piaskowski, P.E.	Certifying Engineer	JRP
Tom Dykowski	Lead CQA Technician	AB
David Hutchinson	Lead CQA Technician	DH
David Alexander	Geosynthetic Lab Manager	DA
Tim Sanders	Soils Lab Manager	TDS

Notes:

CQA = construction quality assurance

**APPENDIX B.2**

**Phase I - Chesapeake Containment  
Systems Personnel**

**Table B.2: J.R. Whiting Ponds 1 and 2 CQA - Chesapeake Containment Systems (CCS) Personnel**

CQA Team Member	Role	Initials
<b>Phase I Crew (August 2019)</b>		
Emiliano Saenz	Superintendent and QC	ES
Luis Hernandez	QC	LH
Rolando Yanez	Master Seamer	RY
Arturo Mata De La Torre	Master Seamer	AMJR
Martin Lopez	Master Seamer	ML
Carlos Medina	Master Seamer	CM
Angel Romero	Master Seamer	AR
Efrain Balderas	Master Seamer	EB
Francisco Perez	Master Seamer	FP
Jose Ramos	Technician	JR
Juan Franco	Master Seamer	JF
Julio Castillo	Master Seamer	JC
Jesus Alfaro	Technician	JA

Notes:

CQA = construction quality assurance

QC = installer's quality control



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**SUPERINTENDENT**  
**Emiliano Saenz**



# Saenz, Emiliano

Material	Quantity	Project	Location	Completion Date
60-mil HDPE Textured	927,234 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
GCL	684,000 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
10-oz Geotextile	1,075,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
16-oz Geotextile	571,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
60-mil HDPE Textured	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
Geocomposite	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
30-mil HDPE	8,328 LF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
16-oz Geotextile	808,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
10-oz Geotextile	603,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Geocomposite	88,500 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
GCL	1,600,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Wind Defender	1,300,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
60-mil HDPE	1,800,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Raincover	601,700 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
40-mil LLDPE Textured	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
10-oz Geotextile	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
Geocomposite	400,752 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
60-mil HDPE Textured	300,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
30-mil PVC	30,500 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
16-oz Geotextile	455,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
GCL	300,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
12-oz Geotextile	70,800 SF	AEP Jackson's Ferry Substation	Max Meadows VA	10/1 /2018
30-mil PVC	70,800 SF	AEP Jackson's Ferry Substation	Max Meadows VA	10/1 /2018

8-oz Geotextile	26,000 SF	Virginia Tech Bioretention Ponds	Blacksburg	VA	8 /28/2018
30-mil PVC	13,000 SF	Virginia Tech Bioretention Ponds	Blacksburg	VA	8 /28/2018
Gundseal	140,744 SF	Plant Gorgas WWM Pond	Parrish	AL	7 /30/2018
40-mil HDPE Textured	73,780 SF	Plant Gorgas WWM Pond	Parrish	AL	7 /30/2018
16-oz Geotextile	88,200 SF	Plant Gorgas WWM Pond	Parrish	AL	7 /30/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
60-mil HDPE Textured	453,000 SF	Curley Hollow Stage 1B Partial Closure	St. Paul	VA	7 /13/2018
8-oz Geotextile	453,000 SF	Curley Hollow Stage 1B Partial Closure	St. Paul	VA	7 /13/2018
Geocomposite	453,000 SF	Curley Hollow Stage 1B Partial Closure	St. Paul	VA	7 /13/2018
40-mil LLDPE Textured	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
12-oz Geotextile	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
Geocomposite	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
60-mil HDPE Textured	7,000 SF	CDIA Storm Water Pond	Charlotte	NC	6 /11/2018
60-mil HDPE	46,000 SF	WS Lee Steam Station - Water Treatment System Area	Belton	SC	6 /11/2018
8-oz Geotextile	46,000 SF	WS Lee Steam Station - Water Treatment System Area	Belton	SC	6 /11/2018
20-mil Raincover	421,500 SF	King George Cell 16B	King George	VA	5 /23/2018
GCL	930,000 SF	King George Cell 16B	King George	VA	5 /23/2018
60-mil HDPE	930,000 SF	King George Cell 16B	King George	VA	5 /23/2018
Geocomposite	465,000 SF	King George Cell 16B	King George	VA	5 /23/2018
Geotextile	465,000 SF	King George Cell 16B	King George	VA	5 /23/2018
40-mil HDPE	465,000 SF	King George Cell 16B	King George	VA	5 /23/2018
60-mil HDPE Textured	99,019 SF	Matlock Bend LF Cell 4	Loudon	TN	5 /4 /2018

16-oz Geotextile	99,019 SF	Matlock Bend LF Cell 4	Loudon	TN	5 /4 /2018
10-oz Geotextile	43,500 SF	AZR Effluent Pond Lining	Mooresboro	NC	5 /1 /2018
80-mil HDPE Smooth	31,000 SF	AZR Effluent Pond Lining	Mooresboro	NC	5 /1 /2018
100-mil HDPE	43,514 SF	AZR Effluent Pond Lining	Mooresboro	NC	5 /1 /2018
50-mil HDPE Textured	66,704 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
4-oz Geotextile	27,990 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
Gundseal	149,709 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
60-mil HDPE Textured	30,500 SF	Kiawah River WWTP	Johns Island	SC	3 /17/2018
Geocomposite	30,500 SF	Kiawah River WWTP	Johns Island	SC	3 /17/2018
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
8-oz Geotextile	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil HDPE	810 LF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
GCL	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
60-mil HDPE Textured	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
12-oz Geotextile.	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017

40-mil LLDPE Textured (2)	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Textured	11,000 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE Textured	73,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
10-oz Geotextile	146,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
GCL	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Rain Cover	200,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
60-mil HDPE	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Geocomposite	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
6-oz Geotextile	150,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE	450 LF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
Wind Defender	33,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
12-mil Dura-Skrim	120,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
40-mil HDPE	187,770 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017

60-mil HDPE	30,800 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
GCL	609,840 SF	BC Foley Development - Phase I	Foley	AL	4 /12/2017
Rain Cover	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
Wind Defender	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
10-oz Geotextile	190,000 SF	Independent Stave Mill Pond	Benton	KY	2 /22/2017
40-mil HDPE Textured	132,000 SF	Independent Stave Mill Pond	Benton	KY	2 /22/2017
40-mil (Vapor Barrier)	14,000 SF	The Hub	Pittsburgh	PA	2 /15/2017
60-mil HDPE	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Rain Cover	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
GCL	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
16-oz Geotextile	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Wind Defender	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
60-mil HDPE	85,500 SF	WM Atlantic Waste WWTP Ponds	Waverly	VA	12/23/2016
16-oz Geotextile	36,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
40-mil LLDPE	340,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
Geocomposite	320,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
6-oz Geotextile	245,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
30-mil PVC	38,293 SF	Clarksburg Outlets Biofilters	Clarksburg	MD	10/23/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016

Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
12-oz Geotextile	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
40-mil HDPE	1,225 LF	Bradley Co. LF	McDonald	TN	10/8 /2016
8-oz Geotextile	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
60-mil HDPE Textured	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
GCL	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
40-mil HDPE	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
Wind Defender	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
Geocomposite	384,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
GCL	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Textured	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Textured	112,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
4-oz Geotextile	526,500 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Smooth	432,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
GCL	20,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
8-oz Geotextile	537,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
6-oz Geotextile	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
60-mil HDPE	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
16-oz Geotextile	152,220 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
40-mil LLDPE	76,110 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
40-mil LLDPE	80,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geocomposite	155,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016

60-mil HDPE	350,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geotextile	280,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
30-mil PVC	36,487 SF	Manors at Ballenger Creek	Frederick	MD	7 /16/2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
40-mil LLDPE Textured	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
Geocomposite	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
30-mil PVC	138,549 SF	Costco	Monrovia	MD	5 /1 /2016
8-oz Geotextile	95,118 SF	Costco	Monrovia	MD	5 /1 /2016
40-mil LLDPE	361,255 SF	WM Mid Penn Interim LF Cap	Saluda	VA	4 /1 /2016
8-oz Geotextile	5,000 SF	Duke Belews Creek Gypsum	Belews Creek	NC	3 /29/2016
60-mil HDPE	5,000 SF	Duke Belews Creek Gypsum	Belews Creek	NC	3 /29/2016
Wind Defender	500,000 SF	Hoover Mason Recycling	Mt Pleasant	TN	1 /19/2016
12-mil Dura-Skrim	500,000 SF	Hoover Mason Recycling	Mt Pleasant	TN	1 /19/2016
8-oz Geotextile	50,000 SF	Dominion Power Yorktown Plant Ponds 1 & 2	Yorktown	VA	12/19/2015
XR-5	50,000 SF	Dominion Power Yorktown Plant Ponds 1 & 2	Yorktown	VA	12/19/2015
30-mil PVC	4,304 SF	Somerford Place	Hagerstown	MD	12/18/2015
8-oz Geotextile	4,304 SF	Somerford Place	Hagerstown	MD	12/18/2015
16-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
8-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
60-mil HDPE	513,000 SF	Harford County	Street	MD	12/4 /2015
Rain Cover	1,393,920 SF	WM Atlantic LF Cell 12A, 12b and 12c Rain Cover	Waverly	VA	11/14/2015
60-mil HDPE	420 LF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
6-oz Geotextile	145,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Wind Defender	45,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015



Rain Cover	155,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
60-mil HDPE	6,000 SF	Rumpke Tank Relining	Cincinnati	OH	10/28/2015
16-oz Geotextile	6,000 SF	Rumpke Tank Relining	Cincinnati	OH	10/28/2015
80-mil HDPE	6,000 SF	Rumpke Tank Relining	Cincinnati	OH	10/28/2015
60-mil HDPE Textured	99,824 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
Geocomposite	983,547 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
GCL	1,272,446 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
60-mil HDPE Smooth	1,172,622 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
12-oz Geotextile	380,979 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
Rain Cover	374,616 SF	WM DRPI LF Cell 1-3 Overlay Rain Cover	New Castle	DE	10/13/2015
Geotextile	684,000 SF	Rumpke-Noble Road LF Cell 8A	Shiloh	OH	9 /14/2015
60-mil HDPE Textured	342,000 SF	Rumpke-Noble Road LF Cell 8A	Shiloh	OH	9 /14/2015
10-oz Geotextile	408,100 SF	DuPont Baugher Farms	Waynesboro	VA	9 /12/2015
Geocomposite	408,100 SF	DuPont Baugher Farms	Waynesboro	VA	9 /12/2015
40-mil HDPE Textured	408,100 SF	DuPont Baugher Farms	Waynesboro	VA	9 /12/2015
8-mil Dura-Skrim	638,400 SF	Grows Cell 5 Raincover	Morrisville	PA	9 /3 /2015
GCL (2)	26,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
Wind Defender	230,000 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
GCL	22,000 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
Geocomposite	26,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
60-mil HDPE Textured	26,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
30-mil LLDPE Textured	256,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
Geocomposite	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015

GCL	288,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured (2)	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured	200,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Rain Cover	216,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Rain Cover	176,240 SF	WM Chaffee Landfill 2015 Rain Cover	Chaffee	NY	7 /12/2015
Rain Cover	277,102 SF	WM Maplewood LF Cell 5 & 8A	Jetersville	VA	6 /29/2015
GCL	878,920 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
60-mil HDPE Smooth	645,870 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
60-mil HDPE Textured	233,020 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
Rain Cover	891,920 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
12-oz Geotextile	195,710 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
Geocomposite	693,573 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
30-mil Dura Skrim	71,495 SF	LCT Energy- Maple Springs Mine	Holsopple	PA	6 /4 /2015
40-mil HDPE	58,048 SF	LCT Energy- Maple Springs Mine	Holsopple	PA	6 /4 /2015
6-oz Geotextile	261,400 SF	Max Bulgar PA 2014 Cap	Bulger	PA	5 /10/2015
Geocomposite	261,400 SF	Max Bulgar PA 2014 Cap	Bulger	PA	5 /10/2015
40-mil HDPE Smooth	261,400 SF	Max Bulgar PA 2014 Cap	Bulger	PA	5 /10/2015
60-mil HDPE	32,000 SF	Winyah Pond	Georgetown	SC	4 /24/2015
36-mil Dura-Skrim	64,477 SF	Lowes Shippensburg SWMP	Shippensburg	PA	4 /13/2015
Geotextile	59,000 SF	Lowes Shippensburg SWMP	Shippensburg	PA	4 /13/2015
Rain Cover	620,000 SF	Mid Shore Cell 2 Rain Cover	Ridgely	MD	3 /31/2015
60-mil HDPE Smooth	67,500 SF	Diageo Distillery (Bulleit Bourbon)	Shelbyville	KY	3 /9 /2015
Geocomposite	67,500 SF	Diageo Distillery (Bulleit Bourbon)	Shelbyville	KY	3 /9 /2015
20-mil Dura-Skrim	309,120 SF	Grows and Tullytown December 2014 Temp Cap	Morrisville	PA	12/23/2014
60-mil HDPE Textured	785,000 SF	East Kentucky Power Spurlock	Maysville	KY	11/26/2014
60-mil HDPE	19,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014

Geotextile	19,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
45-mil RPP	30,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
60-mil HDPE Textured	71,999 SF	US Nitrogen Pond	Midway	TN	11/11/2014
16-oz Geotextile	71,999 SF	US Nitrogen Pond	Midway	TN	11/11/2014
8-oz Geotextile	83,956 SF	Wal-Mart 6263	Winston Salem	NC	11/6 /2014
30-mil LLDPE	41,978 SF	Wal-Mart 6263	Winston Salem	NC	11/6 /2014
Geotextile	54,000 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
60-mil HDPE Textured	86,400 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
60-mil HDPE Smooth	492,300 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
24-mil Dura-Skrim	176,761 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
30-mil HDPE	84,093 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
Geocomposite	199,100 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
GCL	146,000 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
60-mil HDPE	1,009,600 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
60-mil HDPE Textured	185,900 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
GCL (2)	1,007,600 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
40-mil HDPE Smooth	775,170 SF	Plant Gorgas Temporary Cover	Parrish	AL	9 /9 /2014
20-mil Dura-Skrim	480,000 SF	Grows/Tullytown Valley Cap 20 mil	Morrisville	PA	9 /4 /2014
8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
GCL	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
40-mil HDPE	43,885 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
Geocomposite	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
60-mil HDPE	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014

80-mil HDPE	830,000 SF	South Gypsum	Apollo Beach	FL	7 /7 /2014
GCL	830,000 SF	South Gypsum	Apollo Beach	FL	7 /7 /2014
8-oz Geotextile	140,000 SF	Wimington Vertical Expansion	Wilmington	OH	6 /29/2014
60-mil HDPE	146,500 SF	Wimington Vertical Expansion	Wilmington	OH	6 /29/2014
60-mil HDPE Textured	159,100 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
GCL	619,000 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
60-mil Textured	850,500 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
10-oz Geotextile	100,000 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
Geocomposite	369,000 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
10-oz Geotextile	200,000 SF	Pendleton	Butler	KY	12/1 /2013
60-mil HDPE	400,000 SF	Pendleton	Butler	KY	12/1 /2013
Geocomposite	200,000 SF	Pendleton	Butler	KY	12/1 /2013
60-mil HDPE	2,031,500 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
GCL	1,705,400 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
Geocomposite	1,976,900 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
10-oz Geotextile	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
GCL	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
Geocomposite	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
60-mil HDPE	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
8-oz Geotextile	528,000 SF	Beech Hollow	Wellston	OH	8 /1 /2013
60-mil HDPE	528,000 SF	Beech Hollow	Wellston	OH	8 /1 /2013
60-mil HDPE	617,000 SF	Plum Point Cell & Leachate Systems	Osceola	AR	3 /1 /2013
Geocomposite	518,000 SF	Plum Point Cell & Leachate Systems	Osceola	AR	3 /1 /2013

20-mil Geomembrane	135,700 SF	I-95 LF Phase 3B	Lorton	VA	2 /28/2013
60-mil LLDPE Textured	537,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
10-oz Geotextile	680,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
80-mil HDPE Textured	61,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
12-oz Geotextile	68,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
GCL	237,000 SF	Crystal Rivers North Slope Closure	Crystal Rivers	FL	10/1 /2012
60-mil LLDPE Textured	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
10-oz Geotextile	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
60-mil HDPE	875,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
Rain Cover	330,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
12-oz Geotextile	875,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
40-mil LLDPE	1,200,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
Geocomposite	2,400,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
Geocomposite	847,500 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
8-oz Geotextile	19,200 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
40-mil HDPE Textured	847,000 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
Geocomposite	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geotextile	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
30-mil PVC	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geocomposite	86,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
40-mil LLDPE Textured	860,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
40-mil LLDPE Textured	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
Geocomposite	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
40-mil HDPE Textured	1,005,000 SF	Hutsonville Ash Pond	Crawford County	IL	5 /1 /2012
40-mil LLDPE Textured	980,000 SF	Belews Creek Structural Fill Cap	Belews Creek	NC	4 /1 /2012
Geocomposite	980,000 SF	Belews Creek Structural Fill Cap	Belews Creek	NC	4 /1 /2012
Geocomposite	186,400 SF	First Piedmont	Ringgold	VA	4 /1 /2012

60-mil HDPE Textured	425,100 SF	First Piedmont	Ringgold	VA	4 /1 /2012
6-oz Geotextile	262,800 SF	First Piedmont	Ringgold	VA	4 /1 /2012
12-oz Geotextile	247,100 SF	First Piedmont	Ringgold	VA	4 /1 /2012
40-mil LLDPE Textured	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
Geocomposite	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
60-mil HDPE	139,400 SF	Rumpke OCB 2011 Phase 2	Cincinnati	OH	3 /21/2012
Geocomposite	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
60-mil HDPE Textured	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
GCL	2,017,000 SF	Plant Hammond	Rome	GA	2 /1 /2012
Geocomposite	2,017,000 SF	Plant Hammond	Rome	GA	2 /1 /2012
60-mil HDPE Textured	206,000 SF	International Paper	Pine Hill	AL	10/1 /2011
Geocomposite	206,000 SF	International Paper	Pine Hill	AL	10/1 /2011
60-mil HDPE Textured	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
GCL	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
12-oz Geotextile	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
10-oz Geotextile	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
16-oz Geotextile	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
GCL	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
60-mil LLDPE Textured	264,000 SF	Ew Brown Ash Pond	Harrodsburg	KY	8 /1 /2011
10-oz Geotextile	264,000 SF	Ew Brown Ash Pond	Harrodsburg	KY	8 /1 /2011
60-mil HDPE Textured	10,000 SF	Lorton LF Cell 3	Lorton	VA	8 /1 /2011
60-mil HDPE Textured	232,000 SF	Millenium Ash Baltimore	Baltimore	MD	8 /1 /2011
8-oz Geotextile	125,000 SF	Millenium Ash Baltimore	Baltimore	MD	8 /1 /2011
40-mil LLDPE Textured	1,094,000 SF	Pecan Row	Valdosta	GA	6 /1 /2011
Geocomposite	1,094,000 SF	Pecan Row	Valdosta	GA	6 /1 /2011
40-mil LLDPE	1,386,300 SF	Perry County Cap	Uniontown	AL	6 /1 /2011
Geocomposite	1,363,000 SF	Perry County Cap	Uniontown	AL	6 /1 /2011

30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
8-oz Geotextile	457,380 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA	
Wind Defender	3,898,620 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA	
40-mil HDPE Textured	4,356,000 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA	
GCL	135,000 SF	Duke Belews Creek - North Coal Runoff Basin	Belews Creek	NC	
16-oz Geotextile	270,000 SF	Duke Belews Creek - North Coal Runoff Basin	Belews Creek	NC	
60-mil HDPE	135,000 SF	Duke Belews Creek - North Coal Runoff Basin	Belews Creek	NC	
20-mil Rain Cover	240,000 SF	Duke Mayo Monofill LF Emergency Cover	Roxboro	NC	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
Geocomposite	300,000 SF	Raven Power Lot 15	Baltimore	MD	
Rain Cover	150,000 SF	Raven Power Lot 15	Baltimore	MD	
8-oz Geotextile	300,000 SF	Raven Power Lot 15	Baltimore	MD	
60-mil HDPE	360,000 SF	Raven Power Lot 15	Baltimore	MD	
100-mil HDPE Textured	14,400 SF	Seymour Johnson AFB - Pond Lining	Goldsboro	NC	

GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA



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**QAQC**  
**Luis Hernandez**



# Hernandez, Luis Miguel

Material	Quantity	Project	Location	Completion Date
60-mil HDPE Textured	927,234 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
GCL	684,000 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
10-oz Geotextile	1,075,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
16-oz Geotextile	571,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
60-mil HDPE Textured	43,500 SF	Twelve Parks WRF Storage Lagoon	Sharpsburg GA	11/25/2018
GCL	1,374,382 SF	Winyah LF Area 1	Georgetown SC	9 /6 /2018
60-mil HDPE	1,394,382 SF	Winyah LF Area 1	Georgetown SC	9 /6 /2018
Geocomposite	1,374,382 SF	Winyah LF Area 1	Georgetown SC	9 /6 /2018
Rain Cover	225,000 SF	WM Richland LF Raincover	Elgin SC	9 /4 /2018
10-oz Geotextile	900,000 SF	Artesian WWTP	Milton DE	8 /14/2018
45-mil RPP	900,000 SF	Artesian WWTP	Milton DE	8 /14/2018
40-mil LLDPE Textured	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
12-oz Geotextile	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
Geocomposite	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
12-mil Dura-Skrim	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
40-mil HDPE	300,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
60-mil HDPE Textured	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
GCL	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
Geocomposite	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
16-oz Geotextile	300,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
Geocomposite	1,000,000 SF	Plant Hammond Ash Pond 3 Closure	Rome GA	1 /25/2018
60-mil HDPE	1,000,000 SF	Plant Hammond Ash Pond 3 Closure	Rome GA	1 /25/2018
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017

60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida	TN	12/3 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
GCL	189,615 SF	Rhea County Landfill	Dayton	TN	11/6 /2017
16-oz Geotextile	189,615 SF	Rhea County Landfill	Dayton	TN	11/6 /2017
60-mil HDPE Textured	189,615 SF	Rhea County Landfill	Dayton	TN	11/6 /2017
GCL	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil HDPE	810 LF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
8-oz Geotextile	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
60-mil HDPE Textured	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
Geocomposite	410,000 SF	HRRC Landfill - Cell 5	Virginia Beach	VA	10/20/2017
60-mil HDPE	631,000 SF	HRRC Landfill - Cell 5	Virginia Beach	VA	10/20/2017
Geocomposite (2)	222,000 SF	HRRC Landfill - Cell 5	Virginia Beach	VA	10/20/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
GCL	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
Tie-In	2,100 LF	Sunny Farms	Fostoria	OH	8 /29/2017
8-oz Geotextile	1,200,000 SF	Sunny Farms	Fostoria	OH	8 /29/2017
60-mil HDPE	1,200,000 SF	Sunny Farms	Fostoria	OH	8 /29/2017
20-mil Dura-Skrim	1,720,000 SF	Duke Gibson Cell 2 Raincover	Owensville	IN	8 /17/2017
20-mil Dura-Skrim	1,700,000 SF	Duke Gibson Cell 3 Raincover	Owensville	IN	7 /10/2017
Rain Cover	110,024 SF	Hoover Mason Raincover	Mt Pleasant	TN	5 /25/2017
60-mil HDPE	47,000 SF	Raleigh Town Center - Pond Lining	Raleigh	NC	5 /21/2017

12-oz Geotextile	47,000 SF	Raleigh Town Center - Pond Lining	Raleigh	NC	5 /21/2017
Wind Defender	435,000 SF	WM King George LF Temp Cap 2016 Phase 2	King George	VA	4 /1 /2017
20-mil Dura-Skrim	435,000 SF	WM King George LF Temp Cap 2016 Phase 2	King George	VA	4 /1 /2017
16-oz Geotextile	36,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
40-mil LLDPE	340,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
Geocomposite	320,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
6-oz Geotextile	245,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
40-mil LLDPE	26,000 SF	Duke Pine Hall Road Diversion	Walnut Cove	NC	11/23/2016
Geocomposite	26,000 SF	Duke Pine Hall Road Diversion	Walnut Cove	NC	11/23/2016
GCL	154,487 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
Rain Cover	121,263 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
60-mil HDPE Textured	28,774 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
60-mil HDPE Textured (2)	125,714 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
60-mil HDPE	125,000 SF	Carolina Beach WWTP	Carolina Beach	NC	10/15/2016
40-mil HDPE	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
Wind Defender	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
Rain Cover	801,124 SF	WM Grand Central LF- Temp Cap	Pen Argyl	PA	3 /31/2016
16-oz Geotextile	18,358 SF	Duke Allen WTS Pad	Belmont	NC	
60-mil HDPE	18,358 SF	Duke Allen WTS Pad	Belmont	NC	
60-mil HDPE Textured	55,025 SF	Duke Mayo Additional Pond #2	Roxboro	NC	
Geotextile	55,025 SF	Duke Mayo Additional Pond #2	Roxboro	NC	

20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
20-mil Rain Cover	240,000 SF	Duke Mayo Monofill LF Emergency Cover	Roxboro	NC
60-mil HDPE	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
30-mil HDPE	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
Geotextile	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
GCL	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
60-mil HDPE	128,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
GCL	128,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
10-oz Geotextile	445,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
16-oz Geotextile	37,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
16-oz Geotextile	7,404 SF	Duke Mayo Water Treatment System Pad	Roxboro	NC
40-mil LLDPE	45,448 SF	Duke Mayo Water Treatment System Pad	Roxboro	NC
8-oz Geotextile	38,044 SF	Duke Mayo Water Treatment System Pad	Roxboro	NC
Geocomposite	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
40-mil LLDPE Textured	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
40-mil LLDPE (2)	229,649 SF	Halls Mill Creek Lift Station Basin	Mobile	AL
40-mil LLDPE	654 LF	Halls Mill Creek Lift Station Basin	Mobile	AL
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD

HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
60-mil HDPE	392,931 SF	Kapstone Phase 3 LF Cell	Roanoke Rapids	NC
GCL	392,931 SF	Kapstone Phase 3 LF Cell	Roanoke Rapids	NC
Geotextile	392,931 SF	Kapstone Phase 3 LF Cell	Roanoke Rapids	NC
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Rain Cover	150,000 SF	Raven Power Lot 15	Baltimore	MD
Geocomposite	300,000 SF	Raven Power Lot 15	Baltimore	MD
60-mil HDPE	360,000 SF	Raven Power Lot 15	Baltimore	MD
8-oz Geotextile	300,000 SF	Raven Power Lot 15	Baltimore	MD
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

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## **FIELD TEAM**

**Rolando Yanez**

**Arturo Mata De La Torre**

**Martin Lopez**

**Carlos Medina**

**Angel Romero**

**Efrain Balderas**

**Francisco Perez**

**Jose Ramos**

**Juan Franco**

**Julio Castillo**

**Jesus Alfaro**

# Yanez, Rolando

Material	Quantity	Project	Location		Completion Date
Geotextile	100,000 SF	Keystone Landfill T&M	Dunmore	PA	1 /12/2019
GCL	87,120 SF	Winchester VA Leachate Lagoon	Winchester	VA	12/15/2018
60-mil HDPE	174,240 SF	Winchester VA Leachate Lagoon	Winchester	VA	12/15/2018
40-mil LLDPE	87,120 SF	Winchester VA Leachate Lagoon	Winchester	VA	12/15/2018
30-mil PVC	13,000 SF	Virginia Tech Bioretention Ponds	Blacksburg	VA	8 /28/2018
8-oz Geotextile	26,000 SF	Virginia Tech Bioretention Ponds	Blacksburg	VA	8 /28/2018
16-oz Geotextile	358,540 SF	Mountain View Reclamation Cell 21B2	Greencastle	PA	8 /6 /2018
GCL	179,270 SF	Mountain View Reclamation Cell 21B2	Greencastle	PA	8 /6 /2018
60-mil HDPE	382,156 SF	Mountain View Reclamation Cell 21B2	Greencastle	PA	8 /6 /2018
Geocomposite	181,670 SF	Mountain View Reclamation Cell 21B2	Greencastle	PA	8 /6 /2018
GCL	472,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
40-mil LLDPE Textured	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
12-oz Geotextile	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
Geocomposite	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
Gundseal	149,709 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
4-oz Geotextile	27,990 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
50-mil HDPE Textured	66,704 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017



60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida	TN	12/3 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
8-oz Geotextile	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil HDPE	810 LF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
60-mil HDPE Textured	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
GCL	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
12-oz Geotextile	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured (2)	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Textured	11,000 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile.	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017

10-oz Geotextile	146,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
60-mil HDPE Textured	73,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
GCL	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Rain Cover	200,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
60-mil HDPE	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Geocomposite	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
12-mil Dura-Skrim	120,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE	450 LF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
Wind Defender	33,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
6-oz Geotextile	150,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
40-mil HDPE	187,770 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
60-mil HDPE	30,800 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
Wind Defender	435,000 SF	WM King George LF Temp Cap 2016 Phase 2	King George	VA	4 /1 /2017
20-mil Dura-Skrim	435,000 SF	WM King George LF Temp Cap 2016 Phase 2	King George	VA	4 /1 /2017
Wind Defender	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
Rain Cover	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
60-mil HDPE	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Rain Cover	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
16-oz Geotextile	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Wind Defender	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
GCL	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016

60-mil HDPE	85,500 SF	WM Atlantic Waste WWTP Ponds	Waverly	VA	12/23/2016
40-mil LLDPE	340,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
Geocomposite	320,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
6-oz Geotextile	245,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
16-oz Geotextile	36,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
30-mil PVC	38,293 SF	Clarksburg Outlets Biofilters	Clarksburg	MD	10/23/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
12-oz Geotextile	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
8-oz Geotextile	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
GCL	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
40-mil HDPE	1,225 LF	Bradley Co. LF	McDonald	TN	10/8 /2016
60-mil HDPE Textured	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
Wind Defender	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
40-mil HDPE	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
GCL	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
Geocomposite	384,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Textured	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
GCL	20,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016

60-mil HDPE Textured	112,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
8-oz Geotextile	537,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Smooth	432,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
4-oz Geotextile	526,500 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
6-oz Geotextile	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
60-mil HDPE	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
40-mil LLDPE	76,110 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
16-oz Geotextile	152,220 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
40-mil LLDPE	80,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geocomposite	155,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
60-mil HDPE	350,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geotextile	280,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
30-mil PVC	36,487 SF	Manors at Ballenger Creek	Frederick	MD	7 /16/2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
Geocomposite	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
40-mil LLDPE Textured	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
40-mil LLDPE	361,255 SF	WM Mid Penn Interim LF Cap	Saluda	VA	4 /1 /2016
XR-5	50,000 SF	Dominion Power Yorktown Plant Ponds 1 & 2	Yorktown	VA	12/19/2015
8-oz Geotextile	50,000 SF	Dominion Power Yorktown Plant Ponds 1 & 2	Yorktown	VA	12/19/2015
8-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
60-mil HDPE	513,000 SF	Harford County	Street	MD	12/4 /2015

16-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
Rain Cover	1,393,920 SF	WM Atlantic LF Cell 12A, 12b and 12c Rain Cover	Waverly	VA	11/14/2015
6-oz Geotextile	145,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Rain Cover	155,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
60-mil HDPE	420 LF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Wind Defender	45,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Rain Cover	374,616 SF	WM DRPI LF Cell 1-3 Overlay Rain Cover	New Castle	DE	10/13/2015
Geocomposite	512,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
45-mil RPP	72,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
GCL	584,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
30-mil PVC	512,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
Geocomposite (2)	414,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
20-mil Dura-Skrim	309,120 SF	Grows and Tullytown December 2014 Temp Cap	Morrisville	PA	12/23/2014
45-mil RPP	30,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
Geotextile	19,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
60-mil HDPE	19,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
60-mil HDPE Textured	71,999 SF	US Nitrogen Pond	Midway	TN	11/11/2014
16-oz Geotextile	71,999 SF	US Nitrogen Pond	Midway	TN	11/11/2014
30-mil LLDPE	41,978 SF	Wal-Mart 6263	Winston Salem	NC	11/6 /2014
8-oz Geotextile	83,956 SF	Wal-Mart 6263	Winston Salem	NC	11/6 /2014
60-mil HDPE Smooth	492,300 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
Geotextile	54,000 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
60-mil HDPE Textured	86,400 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
30-mil HDPE	84,093 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
24-mil Dura-Skrim	176,761 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014

GCL	146,000 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
60-mil HDPE	1,009,600 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
Geocomposite	199,100 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
GCL (2)	1,007,600 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
60-mil HDPE Textured	185,900 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
40-mil HDPE Smooth	775,170 SF	Plant Gorgas Temporary Cover	Parrish	AL	9 /9 /2014
8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
40-mil HDPE	43,885 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
GCL	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
Geocomposite	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
60-mil HDPE	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
GCL	830,000 SF	South Gypsum	Apollo Beach	FL	7 /7 /2014
80-mil HDPE	830,000 SF	South Gypsum	Apollo Beach	FL	7 /7 /2014
8-oz Geotextile	140,000 SF	Wilmington Vertical Expansion	Wilmington	OH	6 /29/2014
60-mil HDPE	146,500 SF	Wilmington Vertical Expansion	Wilmington	OH	6 /29/2014
Geocomposite (2)	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
50-mil PVC	657,000 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Rain Cover	646,200 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
GCL	1,705,400 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
Geocomposite	1,976,900 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
60-mil HDPE	2,031,500 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
Geocomposite	468,200 SF	South Carolina International Paper	Eastover	SC	10/1 /2013

60-mil HDPE Textured	468,200 SF	South Carolina International Paper	Eastover	SC	10/1 /2013
Rain Cover	212,400 SF	South Carolina International Paper	Eastover	SC	10/1 /2013
30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
GCL	62,000 SF	Atlantic Lagoon 3 Modifications	Waverly	VA	
40-mil HDPE Textured	4,356,000 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA	
Wind Defender	3,898,620 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA	
8-oz Geotextile	457,380 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA	
32-oz Geotextile	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
60-mil HDPE Textured (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
60-mil HDPE Textured	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC	
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC	
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC	
20-mil Rain Cover	240,000 SF	Duke Mayo Monofill LF Emergency Cover	Roxboro	NC	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	

20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
GCL	19,500 SF	Pike County Landfill	Pikeville	KY
10-oz Geotextile	19,500 SF	Pike County Landfill	Pikeville	KY
80-mil Geomembrane	19,500 SF	Pike County Landfill	Pikeville	KY
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
12-mil Raincover	200,000 SF	WM Bethel LF 6A Valley Raincover	Hampton	VA
Wind Defender	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton	VA
40-mil HDPE	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA



# Mata De La Torre, Arturo

Material	Quantity	Project	Location	Completion Date
Geocomposite	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
60-mil HDPE Textured	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
60-mil HDPE Textured	255,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
10-oz Geotextile	33,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
Geocomposite	254,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
40-mil LLDPE Textured	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
12-oz Geotextile	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
Geocomposite	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
50-mil HDPE Textured	66,704 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
4-oz Geotextile	27,990 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
Gundseal	149,709 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida TN	12/3 /2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida TN	12/3 /2017

Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
40-mil HDPE	810 LF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
8-oz Geotextile	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
GCL	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
60-mil HDPE Textured	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil LLDPE Textured	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured (2)	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Textured	11,000 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile.	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE Textured	73,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
10-oz Geotextile	146,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
GCL	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Geocomposite	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Rain Cover	200,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
60-mil HDPE	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017

12-mil Dura-Skrim	120,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE	450 LF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
6-oz Geotextile	150,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
Wind Defender	33,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
40-mil HDPE	187,770 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
60-mil HDPE	30,800 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
Rain Cover	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
Wind Defender	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
60-mil HDPE	85,500 SF	WM Atlantic Waste WWTP Ponds	Waverly	VA	12/23/2016
80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
30-mil PVC	38,293 SF	Clarksburg Outlets Biofilters	Clarksburg	MD	10/23/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016
12-oz Geotextile	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
60-mil HDPE	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
60-mil HDPE Textured	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
GCL	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
40-mil HDPE	1,225 LF	Bradley Co. LF	McDonald	TN	10/8 /2016
8-oz Geotextile	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016

40-mil HDPE	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
Wind Defender	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
60-mil HDPE Textured	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
GCL	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
Geocomposite	384,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Smooth	432,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
8-oz Geotextile	537,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
4-oz Geotextile	526,500 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Textured	112,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
GCL	20,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
6-oz Geotextile	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
60-mil HDPE	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
16-oz Geotextile	152,220 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
40-mil LLDPE	76,110 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
40-mil LLDPE	80,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geotextile	280,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geocomposite	155,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
60-mil HDPE	350,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
30-mil PVC	36,487 SF	Manors at Ballenger Creek	Frederick	MD	7 /16/2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
Geocomposite	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016

40-mil LLDPE Textured	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
40-mil LLDPE	361,255 SF	WM Mid Penn Interim LF Cap	Saluda	VA	4 /1 /2016
8-oz Geotextile	50,000 SF	Dominion Power Yorktown Plant Ponds 1 & 2	Yorktown	VA	12/19/2015
XR-5	50,000 SF	Dominion Power Yorktown Plant Ponds 1 & 2	Yorktown	VA	12/19/2015
8-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
60-mil HDPE	513,000 SF	Harford County	Street	MD	12/4 /2015
16-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
Rain Cover	1,393,920 SF	WM Atlantic LF Cell 12A, 12b and 12c Rain Cover	Waverly	VA	11/14/2015
Wind Defender	45,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
60-mil HDPE	420 LF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Rain Cover	155,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
6-oz Geotextile	145,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Rain Cover	374,616 SF	WM DRPI LF Cell 1-3 Overlay Rain Cover	New Castle	DE	10/13/2015
Rain Cover	522,000 SF	WM King George LF 24 mil Raincover	King George	VA	2 /27/2015
20-mil Dura-Skrim	309,120 SF	Grows and Tullytown December 2014 Temp Cap	Morrisville	PA	12/23/2014
60-mil HDPE	19,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
Geotextile	19,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
45-mil RPP	30,000 SF	Cozart Landfill Pond	Coolville	OH	11/19/2014
60-mil HDPE Textured	71,999 SF	US Nitrogen Pond	Midway	TN	11/11/2014
16-oz Geotextile	71,999 SF	US Nitrogen Pond	Midway	TN	11/11/2014
8-oz Geotextile	83,956 SF	Wal-Mart 6263	Winston Salem	NC	11/6 /2014
30-mil LLDPE	41,978 SF	Wal-Mart 6263	Winston Salem	NC	11/6 /2014
Geotextile	54,000 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014

60-mil HDPE Textured	86,400 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
60-mil HDPE Smooth	492,300 SF	NIPSCO Phase 6 Cell	Wheatfield	IN	10/8 /2014
30-mil HDPE	84,093 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
24-mil Dura-Skrim	176,761 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
60-mil HDPE Textured	185,900 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
60-mil HDPE	1,009,600 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
GCL	146,000 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
Geocomposite	199,100 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
GCL (2)	1,007,600 SF	Santee Cooper Cross Station	Pineville	SC	9 /19/2014
40-mil HDPE Smooth	775,170 SF	Plant Gorgas Temporary Cover	Parrish	AL	9 /9 /2014
60-mil HDPE	43,560 SF	Iris Glen Cell 6B Repairs	Johnson City	TN	9 /4 /2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
40-mil HDPE	43,885 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
60-mil HDPE	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
GCL	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
Geocomposite	31,224 SF	Modifications to Asheville Cap & Cell for Runway at Asheville Airport	Fletcher	NC	7 /20/2014
80-mil HDPE	830,000 SF	South Gypsum	Apollo Beach	FL	7 /7 /2014
GCL	830,000 SF	South Gypsum	Apollo Beach	FL	7 /7 /2014
8-oz Geotextile	140,000 SF	Wilmington Vertical Expansion	Wilmington	OH	6 /29/2014
60-mil HDPE	146,500 SF	Wilmington Vertical Expansion	Wilmington	OH	6 /29/2014
Geocomposite	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Rain Cover	646,200 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite (2)	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013

50-mil PVC	657,000 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
60-mil HDPE	2,031,500 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
GCL	1,705,400 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
Geocomposite	1,976,900 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA	
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA	
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA	
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA	
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA	
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA	
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA	
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA	

# Lopez, Martin

Material	Quantity	Project	Location	Completion Date
60-mil HDPE Textured	927,234 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
GCL	684,000 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
10-oz Geotextile	1,075,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
16-oz Geotextile	571,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
Geocomposite	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
60-mil HDPE Textured	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
Geocomposite	88,500 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
GCL	1,600,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
10-oz Geotextile	603,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
16-oz Geotextile	808,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
60-mil HDPE	1,800,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
30-mil HDPE	8,328 LF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Raincover	601,700 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Wind Defender	1,300,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
10-oz Geotextile	33,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
60-mil HDPE Textured	255,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
Geocomposite	254,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
30-mil PVC	30,500 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
16-oz Geotextile	455,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
GCL	300,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
60-mil HDPE Textured	300,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
30-mil PVC	70,800 SF	AEP Jackson's Ferry Substation	Max Meadows VA	10/1 /2018
12-oz Geotextile	70,800 SF	AEP Jackson's Ferry Substation	Max Meadows VA	10/1 /2018



30-mil PVC	13,000 SF	Virginia Tech Bioretention Ponds	Blacksburg	VA	8 /28/2018
8-oz Geotextile	26,000 SF	Virginia Tech Bioretention Ponds	Blacksburg	VA	8 /28/2018
16-oz Geotextile	88,200 SF	Plant Gorgas WWM Pond	Parrish	AL	7 /30/2018
40-mil HDPE Textured	73,780 SF	Plant Gorgas WWM Pond	Parrish	AL	7 /30/2018
Gundseal	140,744 SF	Plant Gorgas WWM Pond	Parrish	AL	7 /30/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center	MI	7 /23/2018
8-oz Geotextile	453,000 SF	Curley Hollow Stage 1B Partial Closure	St. Paul	VA	7 /13/2018
60-mil HDPE Textured	453,000 SF	Curley Hollow Stage 1B Partial Closure	St. Paul	VA	7 /13/2018
Geocomposite	453,000 SF	Curley Hollow Stage 1B Partial Closure	St. Paul	VA	7 /13/2018
12-oz Geotextile	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
Geocomposite	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
40-mil LLDPE Textured	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman	TN	6 /26/2018
60-mil HDPE Textured	7,000 SF	CDIA Storm Water Pond	Charlotte	NC	6 /11/2018
8-oz Geotextile	46,000 SF	WS Lee Steam Station - Water Treatment System Area	Belton	SC	6 /11/2018
60-mil HDPE	46,000 SF	WS Lee Steam Station - Water Treatment System Area	Belton	SC	6 /11/2018
20-mil Raincover	421,500 SF	King George Cell 16B	King George	VA	5 /23/2018
Geotextile	465,000 SF	King George Cell 16B	King George	VA	5 /23/2018
Geocomposite	465,000 SF	King George Cell 16B	King George	VA	5 /23/2018
60-mil HDPE	930,000 SF	King George Cell 16B	King George	VA	5 /23/2018
GCL	930,000 SF	King George Cell 16B	King George	VA	5 /23/2018
40-mil HDPE	465,000 SF	King George Cell 16B	King George	VA	5 /23/2018
60-mil HDPE Textured	99,019 SF	Matlock Bend LF Cell 4	Loudon	TN	5 /4 /2018

16-oz Geotextile	99,019 SF	Matlock Bend LF Cell 4	Loudon	TN	5 /4 /2018
50-mil HDPE Textured	66,704 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
Gundseal	149,709 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
4-oz Geotextile	27,990 SF	Plant Gaston Wastewater Pond	Wilsonville	AL	3 /27/2018
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
60-mil HDPE Textured	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
GCL	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil HDPE	810 LF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
8-oz Geotextile	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
12-oz Geotextile.	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Textured	11,000 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured (2)	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
10-oz Geotextile	146,000 SF	AEP John Amos	Winfield	WV	7 /17/2017

60-mil HDPE Textured	73,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
12-mil Dura-Skrim	120,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE	450 LF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
6-oz Geotextile	150,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
Wind Defender	33,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE	30,800 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
40-mil HDPE	187,770 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
GCL	609,840 SF	BC Foley Development - Phase I	Foley	AL	4 /12/2017
40-mil HDPE Textured	132,000 SF	Independent Stave Mill Pond	Benton	KY	2 /22/2017
10-oz Geotextile	190,000 SF	Independent Stave Mill Pond	Benton	KY	2 /22/2017
40-mil (Vapor Barrier)	14,000 SF	The Hub	Pittsburgh	PA	2 /15/2017
30-mil PVC	38,293 SF	Clarksburg Outlets Biofilters	Clarksburg	MD	10/23/2016
Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
12-oz Geotextile	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
60-mil HDPE Textured	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
8-oz Geotextile	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
GCL	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
40-mil HDPE	1,225 LF	Bradley Co. LF	McDonald	TN	10/8 /2016

Wind Defender	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
40-mil HDPE	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
4-oz Geotextile	526,500 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Smooth	432,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
8-oz Geotextile	537,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
GCL	20,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Textured	112,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
6-oz Geotextile	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
60-mil HDPE	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
16-oz Geotextile	152,220 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
40-mil LLDPE	76,110 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
Geocomposite	2,800,000 SF	TVA Colbert Closure	Tuscumbia	AL	8 /17/2016
Geotextile	2,800,000 SF	TVA Colbert Closure	Tuscumbia	AL	8 /17/2016
40-mil LLDPE Textured	2,800,000 SF	TVA Colbert Closure	Tuscumbia	AL	8 /17/2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
Geotextile	280,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
60-mil HDPE	350,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geocomposite	155,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
40-mil LLDPE	80,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
30-mil PVC	36,487 SF	Manors at Ballenger Creek	Frederick	MD	7 /16/2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
40-mil LLDPE	361,255 SF	WM Mid Penn Interim LF Cap	Saluda	VA	4 /1 /2016
8-oz Geotextile	5,000 SF	Duke Belews Creek Gypsum	Belews Creek	NC	3 /29/2016

60-mil HDPE	5,000 SF	Duke Belews Creek Gypsum	Belews Creek	NC	3 /29/2016
Geocomposite	160,000 SF	West Camden Geocomposite	Camden	TN	3 /21/2016
12-mil Dura-Skrim	500,000 SF	Hoover Mason Recycling	Mt Pleasant	TN	1 /19/2016
Wind Defender	500,000 SF	Hoover Mason Recycling	Mt Pleasant	TN	1 /19/2016
60-mil LLDPE Textured	2,465,496 SF	Ghent PH1B	Ghent	KY	12/12/2015
Geotextile	2,465,496 SF	Ghent PH1B	Ghent	KY	12/12/2015
Geotextile	210,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
Geocomposite	104,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
60-mil HDPE Textured	328,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
GCL	254,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
8-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
16-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
60-mil HDPE	513,000 SF	Harford County	Street	MD	12/4 /2015
GCL	4,000 SF	I-43 Ash Landfill	Sheboygan	WI	11/29/2015
40-mil LLDPE	150,000 SF	I-43 Ash Landfill	Sheboygan	WI	11/29/2015
Geotextile	73,275 SF	I-43 Ash Landfill	Sheboygan	WI	11/29/2015
60-mil HDPE	539,000 SF	I-43 Ash Landfill	Sheboygan	WI	11/29/2015
Rain Cover	24,740 SF	Duke Cliffside Ash LF	Mooresboro	NC	11/24/2015
GCL	677,825 SF	Duke Cliffside Ash LF	Mooresboro	NC	11/24/2015
Geocomposite	677,825 SF	Duke Cliffside Ash LF	Mooresboro	NC	11/24/2015
30-mil Geomembrane	68,718 SF	Duke Cliffside Ash LF	Mooresboro	NC	11/24/2015
60-mil HDPE	677,825 SF	Duke Cliffside Ash LF	Mooresboro	NC	11/24/2015
Rain Cover	104,000 SF	Ghent Slope Raincover	Ghent	KY	11/14/2015
60-mil HDPE Textured	99,824 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
60-mil HDPE Smooth	1,172,622 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015

GCL	1,272,446 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
12-oz Geotextile	380,979 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
Geocomposite	983,547 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
60-mil HDPE Smooth	86,800 SF	Lindauer & Sons Pond	Ferdinand	IN	10/16/2015
60-mil HDPE	5,400 SF	Vincent Georges & Sons Pond	Fort Branch	IN	10/15/2015
12-oz Geotextile	3,000 SF	Vincent Georges & Sons Pond	Fort Branch	IN	10/15/2015
60-mil HDPE	39,000 SF	Duke Weatherspoon Secondary Containment	Lumberton	NC	9 /30/2015
Geocomposite	39,000 SF	Duke Weatherspoon Secondary Containment	Lumberton	NC	9 /30/2015
8-mil Dura-Skrim	638,400 SF	Grows Cell 5 Raincover	Morrisville	PA	9 /3 /2015
40-mil HDPE	6,500 SF	Anderson Regional Landfill Overlay 2B Area	Belton	SC	8 /16/2015
Geocomposite	10,359 SF	Anderson Regional Landfill Overlay 2B Area	Belton	SC	8 /16/2015
60-mil HDPE Textured	99,631 SF	Anderson Regional Landfill Overlay 2B Area	Belton	SC	8 /16/2015
40-mil HDPE (2)	15,000 SF	Anderson Regional Landfill Overlay 2B Area	Belton	SC	8 /16/2015
Geotextile	65,000 SF	Refined Metals Corporation	Beech Grove	IN	12/12/2014
Geocomposite	65,000 SF	Refined Metals Corporation	Beech Grove	IN	12/12/2014
60-mil HDPE	65,000 SF	Refined Metals Corporation	Beech Grove	IN	12/12/2014
20-mil Geomembrane	135,700 SF	I-95 LF Phase 3B	Lorton	VA	2 /28/2013
10-oz Geotextile	680,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
80-mil HDPE Textured	61,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
12-oz Geotextile	68,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
60-mil LLDPE Textured	537,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
GCL	237,000 SF	Crystal Rivers North Slope Closure	Crystal Rivers	FL	10/1 /2012
60-mil LLDPE Textured	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
10-oz Geotextile	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012

Rain Cover	330,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
12-oz Geotextile	875,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
60-mil HDPE	875,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
Geocomposite	2,400,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
40-mil LLDPE	1,200,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
Geocomposite	847,500 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
8-oz Geotextile	19,200 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
40-mil HDPE Textured	847,000 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
Geotextile	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
30-mil PVC	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geocomposite	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
40-mil LLDPE Textured	860,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
Geocomposite	86,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
Geocomposite	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
40-mil LLDPE Textured	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
40-mil HDPE Textured	1,005,000 SF	Hutsonville Ash Pond	Crawford County	IL	5 /1 /2012
Geocomposite	980,000 SF	Belews Creek Structural Fill Cap	Belews Creek	NC	4 /1 /2012
40-mil LLDPE Textured	980,000 SF	Belews Creek Structural Fill Cap	Belews Creek	NC	4 /1 /2012
60-mil HDPE Textured	425,100 SF	First Piedmont	Ringgold	VA	4 /1 /2012
6-oz Geotextile	262,800 SF	First Piedmont	Ringgold	VA	4 /1 /2012
Geocomposite	186,400 SF	First Piedmont	Ringgold	VA	4 /1 /2012
12-oz Geotextile	247,100 SF	First Piedmont	Ringgold	VA	4 /1 /2012
40-mil LLDPE Textured	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
Geocomposite	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
60-mil HDPE	139,400 SF	Rumpke OCB 2011 Phase 2	Cincinnati	OH	3 /21/2012
Geocomposite	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
60-mil HDPE Textured	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012

GCL	2,017,000 SF	Plant Hammond	Rome	GA	2 /1 /2012
Geocomposite	2,017,000 SF	Plant Hammond	Rome	GA	2 /1 /2012
60-mil HDPE Textured	206,000 SF	International Paper	Pine Hill	AL	10/1 /2011
Geocomposite	206,000 SF	International Paper	Pine Hill	AL	10/1 /2011
60-mil HDPE Textured	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
12-oz Geotextile	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
GCL	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
GCL	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
16-oz Geotextile	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
10-oz Geotextile	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
60-mil LLDPE Textured	264,000 SF	Ew Brown Ash Pond	Harrodsburg	KY	8 /1 /2011
10-oz Geotextile	264,000 SF	Ew Brown Ash Pond	Harrodsburg	KY	8 /1 /2011
60-mil HDPE Textured	10,000 SF	Lorton LF Cell 3	Lorton	VA	8 /1 /2011
60-mil HDPE Textured	232,000 SF	Millenium Ash Baltimore	Baltimore	MD	8 /1 /2011
8-oz Geotextile	125,000 SF	Millenium Ash Baltimore	Baltimore	MD	8 /1 /2011
Geocomposite	1,094,000 SF	Pecan Row	Valdosta	GA	6 /1 /2011
40-mil LLDPE Textured	1,094,000 SF	Pecan Row	Valdosta	GA	6 /1 /2011
40-mil LLDPE	1,386,300 SF	Perry County Cap	Uniontown	AL	6 /1 /2011
Geocomposite	1,363,000 SF	Perry County Cap	Uniontown	AL	6 /1 /2011
30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
50-mil PVC	3,283,830 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
12-mil Rain Cover	3,354,120 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
16-oz Geotextile	4,848,525 SF	Curley Hollow LF Stage 2A	St. Paul	VA	



Geocomposite	1,513,690 SF	Curley Hollow LF Stage 2A	St. Paul	VA
10-oz Geotextile	3,283,830 SF	Curley Hollow LF Stage 2A	St. Paul	VA
Wind Defender	3,354,120 SF	Curley Hollow LF Stage 2A	St. Paul	VA
60-mil HDPE	135,000 SF	Duke Belews Creek - North Coal Runoff Basin	Belews Creek	NC
GCL	135,000 SF	Duke Belews Creek - North Coal Runoff Basin	Belews Creek	NC
16-oz Geotextile	270,000 SF	Duke Belews Creek - North Coal Runoff Basin	Belews Creek	NC
20-mil Rain Cover	240,000 SF	Duke Mayo Monofill LF Emergency Cover	Roxboro	NC
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
Geocomposite	300,000 SF	Raven Power Lot 15	Baltimore	MD
Rain Cover	150,000 SF	Raven Power Lot 15	Baltimore	MD
8-oz Geotextile	300,000 SF	Raven Power Lot 15	Baltimore	MD
60-mil HDPE	360,000 SF	Raven Power Lot 15	Baltimore	MD
100-mil HDPE Textured	14,400 SF	Seymour Johnson AFB - Pond Lining	Goldsboro	NC
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

# Medina, Carlos

Material	Quantity	Project	Location	Completion Date
16-oz Geotextile	571,500 SF	Duke Mayo Water Redirect	Roxboro	NC 2 /3 /2019
60-mil HDPE Textured	927,234 SF	Duke Mayo Water Redirect	Roxboro	NC 2 /3 /2019
GCL	684,000 SF	Duke Mayo Water Redirect	Roxboro	NC 2 /3 /2019
10-oz Geotextile	1,075,500 SF	Duke Mayo Water Redirect	Roxboro	NC 2 /3 /2019
30-mil HDPE	8,328 LF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
10-oz Geotextile	603,000 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
16-oz Geotextile	808,000 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
Wind Defender	1,300,000 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
60-mil HDPE	1,800,000 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
GCL	1,600,000 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
Raincover	601,700 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
Geocomposite	88,500 SF	Duke Roxboro Water Redirect	Semora	NC 12/15/2018
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
60-mil HDPE	71,940 SF	Dismal Swamp WWTP Liner Replacement	South Mills	NC
60-mil HDPE Textured	90,090 SF	Dominion Power Clover Ponds	Clover	VA
32-oz Geotextile (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA
60-mil HDPE Textured (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA
32-oz Geotextile	90,090 SF	Dominion Power Clover Ponds	Clover	VA
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC

Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
GCL	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
60-mil HDPE	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
30-mil HDPE	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
Geotextile	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
GCL	128,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
60-mil HDPE	128,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
10-oz Geotextile	445,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
16-oz Geotextile	37,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
Geocomposite	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
40-mil LLDPE Textured	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA

GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

# Romero, Angel

Material	Quantity	Project	Location	Completion Date
60-mil HDPE Textured	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
Geocomposite	455,130 SF	Republic Middle Point LF	Murfreesboro TN	12/16/2018
60-mil HDPE Textured	255,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
10-oz Geotextile	33,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
Geocomposite	254,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
4-oz Geotextile	27,990 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
50-mil HDPE Textured	66,704 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
Gundseal	149,709 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida TN	12/3 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida TN	12/3 /2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia AL	11/18/2017
Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia AL	11/18/2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia AL	11/18/2017

60-mil HDPE Textured	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil HDPE	810 LF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
8-oz Geotextile	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
GCL	113,940 SF	Bradley Co LF - Module 5	McDonald	TN	10/27/2017
40-mil LLDPE Textured (2)	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile.	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
40-mil LLDPE Textured	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Textured	11,000 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
Rain Cover	200,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
60-mil HDPE	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
GCL	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
Geocomposite	450,000 SF	Onslow County Landfill	Jacksonville	NC	6 /8 /2017
12-mil Dura-Skrim	120,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
Wind Defender	33,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
6-oz Geotextile	150,000 SF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE	450 LF	Phoenix Landfill Raincover	Wellsboro	PA	5 /16/2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017

Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
40-mil HDPE	187,770 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
60-mil HDPE	30,800 SF	Duke Energy Riverbend Pond Lining	Mount Holly	NC	4 /22/2017
20-mil Dura-Skrim	435,000 SF	WM King George LF Temp Cap 2016 Phase 2	King George	VA	4 /1 /2017
Wind Defender	435,000 SF	WM King George LF Temp Cap 2016 Phase 2	King George	VA	4 /1 /2017
Rain Cover	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
Wind Defender	115,000 SF	Duke Mayo Raincover Removal and Replacement	Roxboro	NC	3 /5 /2017
16-oz Geotextile	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Wind Defender	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
GCL	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
60-mil HDPE	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Rain Cover	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
16-oz Geotextile	36,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
40-mil LLDPE	340,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
Geocomposite	320,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
6-oz Geotextile	245,000 SF	Duke Catawba Nuclear Station LF Closure	York	SC	12/12/2016
30-mil PVC	38,293 SF	Clarksburg Outlets Biofilters	Clarksburg	MD	10/23/2016
Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016

12-oz Geotextile	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
60-mil HDPE	110,000 SF	Duke Cliffside Basement Liner	Mooresboro	NC	10/10/2016
60-mil HDPE Textured	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
40-mil HDPE	1,225 LF	Bradley Co. LF	McDonald	TN	10/8 /2016
GCL	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
8-oz Geotextile	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
40-mil HDPE	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
Wind Defender	95,832 SF	WM King George LF Temp Cap 2016	King George	VA	10/5 /2016
60-mil HDPE Smooth	432,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
8-oz Geotextile	537,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
GCL	20,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
4-oz Geotextile	526,500 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Textured	112,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
6-oz Geotextile	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
60-mil HDPE	135,100 SF	Matlock Bend LF	Loudon	TN	9 /14/2016
16-oz Geotextile	152,220 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
40-mil LLDPE	76,110 SF	Dudley Mine Basins	Hopewell	PA	9 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
40-mil LLDPE	80,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
60-mil HDPE	350,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geocomposite	155,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geotextile	280,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
30-mil PVC	36,487 SF	Manors at Ballenger Creek	Frederick	MD	7 /16/2016
40-mil LLDPE	361,255 SF	WM Mid Penn Interim LF Cap	Saluda	VA	4 /1 /2016



HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

# Balderas, Efrain

Material	Quantity	Project	Location	Completion Date
Geocomposite	400,752 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
10-oz Geotextile	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
40-mil LLDPE Textured	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
12-mil Dura-Skrim	139,300 SF	Frey Farm LF Raincover & Wind Defender	Conestoga PA	12/2 /2018
Wind Defender	139,000 SF	Frey Farm LF Raincover & Wind Defender	Conestoga PA	12/2 /2018
Raincover	230,240 SF	Sampson County - GRC Replacement/Repairs	Roseboro NC	10/29/2018
40-mil LLDPE	15,680 SF	Sampson County - GRC Replacement/Repairs	Roseboro NC	10/29/2018
20-mil Dura-Skrim	305,100 SF	Augusta Co LF PH4 Raincover	Staunton VA	10/9 /2018
8-mil Rain Cover	336,450 SF	WM Charles City LF Phase V Cell 2	Charles City VA	2 /4 /2018
GCL	360,050 SF	WM Charles City LF Phase V Cell 2	Charles City VA	2 /4 /2018
60-mil HDPE	66,080 SF	WM Charles City LF Phase V Cell 2	Charles City VA	2 /4 /2018
Geonet	336,097 SF	WM Charles City LF Phase V Cell 2	Charles City VA	2 /4 /2018
Geocomposite	23,954 SF	WM Charles City LF Phase V Cell 2	Charles City VA	2 /4 /2018
60-mil HDPE Textured	720,100 SF	WM Charles City LF Phase V Cell 2	Charles City VA	2 /4 /2018
Geocomposite	1,000,000 SF	Clinch River	Cleveland VA	12/18/2017
30-mil PVC	1,000,000 SF	Clinch River	Cleveland VA	12/18/2017
40-mil LLDPE	270,000 SF	Clinch River	Cleveland VA	12/18/2017
6-oz Geotextile	70,000 SF	Clinch River	Cleveland VA	12/18/2017
GCL	100,000 SF	Ottawa Farms Landfill	Coopersville MI	10/12/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville MI	10/12/2017
40-mil HDPE	350,000 SF	Alliance LF Intermediate Cap	Taylor PA	10/4 /2017

40-mil LLDPE	203,000 SF	Procter and Gamble Site - Ash Pond Closure	Cincinnati	OH	8 /2 /2017
Geocomposite	203,000 SF	Procter and Gamble Site - Ash Pond Closure	Cincinnati	OH	8 /2 /2017
60-mil HDPE	60,000 SF	Green Recycling - Cell 2	Maysville	NC	7 /22/2017
Geocomposite	60,000 SF	Green Recycling - Cell 2	Maysville	NC	7 /22/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
Rain Cover	305,000 SF	Mayo Interim Raincover	Roxboro	NC	7 /14/2017
Wind Defender	305,000 SF	Mayo Interim Raincover	Roxboro	NC	7 /14/2017
60-mil HDPE Textured	413,430 SF	IP Georgetown	Georgetown	SC	6 /30/2017
Rain Cover	104,111 SF	IP Georgetown	Georgetown	SC	6 /30/2017
16-oz Geotextile	413,430 SF	IP Georgetown	Georgetown	SC	6 /30/2017
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
8-oz Geotextile	300,000 SF	Raven Power Lot 15	Baltimore	MD	
Rain Cover	150,000 SF	Raven Power Lot 15	Baltimore	MD	
Geocomposite	300,000 SF	Raven Power Lot 15	Baltimore	MD	

60-mil HDPE	360,000 SF	Raven Power Lot 15	Baltimore	MD
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

# Perez, Francisco

Material	Quantity	Project	Location	Completion Date
40-mil LLDPE Textured	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall	MD 12/14/2018
10-oz Geotextile	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall	MD 12/14/2018
Geocomposite	400,752 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall	MD 12/14/2018
60-mil HDPE Textured	24,000 SF	Duke Cliffside WTS Pad	Mooreboro	NC 12/7 /2018
40-mil LLDPE	15,680 SF	Sampson County - GRC Replacement/Repairs	Roseboro	NC 10/29/2018
Raincover	230,240 SF	Sampson County - GRC Replacement/Repairs	Roseboro	NC 10/29/2018
20-mil Dura-Skrim	305,100 SF	Augusta Co LF PH4 Raincover	Staunton	VA 10/9 /2018
60-mil HDPE Textured	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD 12/15/2017
8-oz Geotextile	840,000 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD 12/15/2017
GCL	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD 12/15/2017
60 mil Textured HDPE Secondary	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD 12/15/2017
50-mil HDPE (Super Gripnet)	875,000 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD 12/15/2017
Geocomposite	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD 12/15/2017
Geocomposite	282,000 SF	Chrin Landfill 3D&E	Easton	PA 12/4 /2017
GCL	282,000 SF	Chrin Landfill 3D&E	Easton	PA 12/4 /2017
60-mil HDPE	580,000 SF	Chrin Landfill 3D&E	Easton	PA 12/4 /2017
16-oz Geotextile	282,000 SF	Chrin Landfill 3D&E	Easton	PA 12/4 /2017
8-oz Geotextile	1,200,000 SF	Sunny Farms	Fostoria	OH 8 /29/2017
Tie-In	2,100 LF	Sunny Farms	Fostoria	OH 8 /29/2017

60-mil HDPE	1,200,000 SF	Sunny Farms	Fostoria	OH	8 /29/2017
40-mil HDPE Textured	50,400 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
60-mil HDPE Textured	556,127 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
14-oz Geotextile	501,812 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
20-mil Dura-Skrim	1,700,000 SF	Duke Gibson Cell 3 Raincover	Owensville	IN	7 /10/2017
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
60-mil HDPE Textured (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
60-mil HDPE Textured	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC	
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC	
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA	
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA	
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA	
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA	

40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

## Ramos, Jose

Material	Quantity	Project	Location	Completion Date
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA



# Franco, Juan

Material	Quantity	Project	Location	Completion Date
Geocomposite	400,752 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall	MD 12/14/2018
10-oz Geotextile	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall	MD 12/14/2018
40-mil LLDPE Textured	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall	MD 12/14/2018
60-mil HDPE Textured	24,000 SF	Duke Cliffside WTS Pad	Mooreboro	NC 12/7 /2018
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
40-mil HDPE Textured	4,356,000 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA
8-oz Geotextile	457,380 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA
Wind Defender	3,898,620 SF	Dominion Chesterfield Lower Ash Pond	Chester	VA
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA

50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA

# Castillo Rodriguez, Julio

Material	Quantity	Project	Location	Completion Date
60-mil HDPE Textured	24,000 SF	Duke Cliffside WTS Pad	Moorestboro	NC 12/7 /2018
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

# Alfaro, Jesus

Material	Quantity	Project	Location	Completion Date
20-mil Rain Cover	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
Wind Defender	618,686 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
60-mil HDPE	74,890 SF	Duke Mayo Monofill LF - Delta Area	Roxboro	NC
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
GCL	489,923 SF	WM Atlantic Cell 8B	Waverly	VA
60-mil HDPE Textured	488,793 SF	WM Atlantic Cell 8B	Waverly	VA
Geocomposite Drainage	491,749 SF	WM Atlantic Cell 8B	Waverly	VA

**APPENDIX B.3**

## Phase II - Chesapeake Containment Systems Personnel

**Table B.3: J.R. Whiting Ponds 1 and 2 CQA - Chesapeake Containment Systems (CCS) Personnel**

CQA Team Member	Role	Initials
<b>Phase II Crew (September 2019)</b>		
Greg Parrott	Superintendent and QC	GP
Jorge Sanchez	QC	JS
Jose Velazquez	Master Seamer	JV
Sabino Dorantes	Master Seamer	SD
Pedro Fernandez	Master Seamer	PF
Ramiro Hernandez	Master Seamer	RH
Victor Gutierrez	Master Seamer	VG
Leonardo Ragoyta	Master Seamer	LR
Tomas Tello	Master Seamer	TT
Juan Mendieta	Master Seamer	JM
Ivan Mendieta	Master Seamer	IM
Joshua Jean	Technician in Training	JJ

Notes:

CQA = construction quality assurance

QC = installer's quality control

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**SUPERINTENDENT**  
**Greg Parrott**



# Parrott, Gregory

Material	Quantity	Project	Location	Completion Date
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
60-mil HDPE	174,240 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
40-mil LLDPE	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
GCL	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
30-mil PVC	13,000 SF	Virginia Tech Bioretention Ponds	Blacksburg VA	8 /28/2018
8-oz Geotextile	26,000 SF	Virginia Tech Bioretention Ponds	Blacksburg VA	8 /28/2018
Geocomposite	181,670 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
16-oz Geotextile	358,540 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
GCL	179,270 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
60-mil HDPE	382,156 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
60-mil HDPE Textured	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
Geocomposite	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
40-mil HDPE Smooth	20,700 SF	West KY Landfill	Mayfield KY	6 /28/2018
GCL	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Smooth	70,875 SF	Bay Valley Foods Pond #3	Faison NC	4 /13/2018
50-mil HDPE Textured	66,704 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
4-oz Geotextile	27,990 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
Gundseal	149,709 SF	Plant Gaston Wastewater Pond	Wilsonville AL	3 /27/2018
Geocomposite	30,500 SF	Kiawah River WWTP	Johns Island SC	3 /17/2018
60-mil HDPE Textured	30,500 SF	Kiawah River WWTP	Johns Island SC	3 /17/2018
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017



60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
Geocomposite	450,000 SF	Nelson Dewey Generating Station	Cassville	WI	12/10/2017
GCL	450,000 SF	Nelson Dewey Generating Station	Cassville	WI	12/10/2017
Geotextile	76,000 SF	Nelson Dewey Generating Station	Cassville	WI	12/10/2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
Geocomposite (CoalTex)	100,000 SF	EKPC Spurlock Phase 2	Maysville	KY	11/12/2017
Geocomposite	250,000 SF	EKPC Spurlock Phase 2	Maysville	KY	11/12/2017
30-mil PVC	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite (2)	100,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile (2)	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	500,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
GCL	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
40-mil HDPE Smooth	9,000 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geotextile	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geocomposite	161,000 SF	CVG Airport SADF Detention Basin	Hebron	KY	10/29/2017
60-mil HDPE Textured	97,700 SF	CVG Airport SADF Detention Basin	Hebron	KY	10/29/2017
GCL	97,700 SF	CVG Airport SADF Detention Basin	Hebron	KY	10/29/2017
60-mil HDPE	150,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE (HLR)	45,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017

GCL	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
Rain Cover	130,680 SF	EKPC JK Smith 8mil Stockpile Cover	Winchester	KY	10/7 /2017
20-mil Dura-Skrim	1,720,000 SF	Duke Gibson Cell 2 Raincover	Owensville	IN	8 /17/2017
40-mil HDPE	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
10-oz Geotextile	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
Rain Cover	110,024 SF	Hoover Mason Raincover	Mt Pleasant	TN	5 /25/2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE (2)	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
16-oz Geotextile	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
Geocomposite	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
GCL	39,498 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Geocomposite	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Tie In Weld	592 LF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
60-mil HDPE Textured	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
GCL	210,420 SF	Hood Container Phase 7 LF	Waverly	TN	11/16/2016
Tie In Weld	796 LF	Hood Container Phase 7 LF	Waverly	TN	11/16/2016
16-oz Geotextile	210,420 SF	Hood Container Phase 7 LF	Waverly	TN	11/16/2016
60-mil HDPE Textured	210,420 SF	Hood Container Phase 7 LF	Waverly	TN	11/16/2016
40-mil LLDPE Smooth	893,111 SF	LaFarge LF 2016 Construction	Alpena	MI	11/5 /2016
40-mil LLDPE	178,349 SF	LaFarge LF 2016 Construction	Alpena	MI	11/5 /2016
60-mil HDPE Textured	104,019 SF	LaFarge LF 2016 Construction	Alpena	MI	11/5 /2016

60-mil HDPE Smooth	322,306 SF	LaFarge LF 2016 Construction	Alpena	MI	11/5 /2016
10-oz Geotextile	2,000,000 SF	Rockport	Rockport	IN	9 /28/2016
30-mil PVC	2,000,000 SF	Rockport	Rockport	IN	9 /28/2016
GCL	960,740 SF	Blackfoot Bridge Mine	Soda Springs	ID	9 /21/2016
Geocomposite	960,740 SF	Blackfoot Bridge Mine	Soda Springs	ID	9 /21/2016
60-mil HDPE Textured	1,463,000 SF	WM Atlantic Waste Temp Cap Phase 1	Waverly	VA	8 /22/2016
60-mil HDPE	26,750 SF	AEP Darby Plant Tank Farm	Mt Sterling	OH	8 /20/2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
40-mil LLDPE	80,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geocomposite	155,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
60-mil HDPE	350,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
Geotextile	280,000 SF	Millennium Landfill	Ashtabula	OH	7 /24/2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
40-mil Geomembrane	345,649 SF	Bethlehem LF Temp Cap	Bethlehem	PA	4 /23/2016
Wind Defender	282,799 SF	Bethlehem LF Temp Cap	Bethlehem	PA	4 /23/2016
16-oz Geotextile	345,649 SF	Bethlehem LF Temp Cap	Bethlehem	PA	4 /23/2016
Geocomposite	82,800 SF	Bethlehem LF Temp Cap	Bethlehem	PA	4 /23/2016
24-mil Dura-Skrim	125,597 SF	Bethlehem LF Temp Cap	Bethlehem	PA	4 /23/2016
8-oz Geocomposite	9,000 SF	AKZO Spill Pond	High Point	NC	4 /22/2016
40-mil Smooth	9,000 SF	AKZO Spill Pond	High Point	NC	4 /22/2016
Geocomposite	160,000 SF	West Camden Geocomposite	Camden	TN	3 /21/2016
60-mil HDPE Smooth	55,000 SF	Bay Valley Food Faison	Faison	NC	3 /19/2016
100-mil Floating Cover	30,756 SF	Griffin Industries-Bastrop Facility	Bastrop	TX	12/19/2015
16-oz Geotextile	239,600 SF	EW Brown Phase 1 Cell	Harrodsburg	KY	12/12/2015

GCL	2,014,000 SF	EW Brown Phase 1 Cell	Harrodsburg	KY	12/12/2015
Geocomposite	1,854,000 SF	EW Brown Phase 1 Cell	Harrodsburg	KY	12/12/2015
60-mil LLDPE Textured	2,465,496 SF	Ghent PH1B	Ghent	KY	12/12/2015
Geotextile	2,465,496 SF	Ghent PH1B	Ghent	KY	12/12/2015
GCL	254,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
60-mil HDPE Textured	328,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
Geocomposite	104,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
Geotextile	210,000 SF	Rumpke-Montgomery Co LF Unit 3 Cell 3	Jeffersonville	KY	12/5 /2015
30-mil PVC	405,900 SF	Gallagher Station Cell 2 Construction & Cell 1 Closure	New Albany	IN	12/4 /2015
PVC	1,280 LF	Gallagher Station Cell 2 Construction & Cell 1 Closure	New Albany	IN	12/4 /2015
16-oz Geotextile	454,500 SF	Gallagher Station Cell 2 Construction & Cell 1 Closure	New Albany	IN	12/4 /2015
30-mil PVC (2)	454,500 SF	Gallagher Station Cell 2 Construction & Cell 1 Closure	New Albany	IN	12/4 /2015
Geocomposite	440,550 SF	Gallagher Station Cell 2 Construction & Cell 1 Closure	New Albany	IN	12/4 /2015
6-oz Geotextile	145,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Wind Defender	45,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
60-mil HDPE	420 LF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Rain Cover	155,000 SF	Phoenix Landfill Rain Cover	Wellsboro	PA	10/31/2015
Geotextile	100,000 SF	Duke Mayo Gypsum	Roxboro	NC	10/1 /2015
60-mil HDPE	100,000 SF	Duke Mayo Gypsum	Roxboro	NC	10/1 /2015
30-mil HDPE	88,000 SF	Lehigh New Windsor Quarry Expansion	New Windsor	MD	9 /20/2015
60-mil HDPE	96,000 SF	Lehigh New Windsor Quarry Expansion	New Windsor	MD	9 /20/2015

60-mil HDPE Smooth	194,364 SF	East Side Dairy	Markle	IN	6 /6 /2015
Geocomposite	20,454 SF	East Side Dairy	Markle	IN	6 /6 /2015
GCL	375,200 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
10-oz Geotextile	161,100 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
Geocomposite	235,000 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
60-mil HDPE	375,200 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
6-oz Geotextile	56,000 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
Monofilament	166,300 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
60-mil HDPE Smooth	13,680 SF	AZR Raffinate Pond	Mooresboro	NC	
Geotextile	13,680 SF	AZR Raffinate Pond	Mooresboro	NC	
60-mil HDPE Textured	13,680 SF	AZR Raffinate Pond	Mooresboro	NC	
60-mil HDPE Textured	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
60-mil HDPE Textured (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA	

40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
Geocomposite	21,000 SF	WM Outer Loop Geocomposite Install Only	Louisville	KY

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**QAQC**  
**Jorge Sanchez**



# Sanchez, Jorge

Material	Quantity	Project	Location	Completion Date
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
GCL	684,000 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
16-oz Geotextile	571,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
60-mil HDPE Textured	927,234 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
10-oz Geotextile	1,075,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
30-mil HDPE	8,328 LF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
60-mil HDPE	1,800,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Raincover	601,700 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Wind Defender	1,300,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
GCL	1,600,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Geocomposite	88,500 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
10-oz Geotextile	603,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
16-oz Geotextile	808,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Geotextile	13,680 SF	AZR Raffinate Pond	Mooresboro NC	
60-mil HDPE Smooth	13,680 SF	AZR Raffinate Pond	Mooresboro NC	
60-mil HDPE Textured	13,680 SF	AZR Raffinate Pond	Mooresboro NC	
60-mil HDPE	71,940 SF	Dismal Swamp WWTP Liner Replacement	South Mills NC	
40-mil HDPE Textured	4,356,000 SF	Dominion Chesterfield Lower Ash Pond	Chester VA	
Wind Defender	3,898,620 SF	Dominion Chesterfield Lower Ash Pond	Chester VA	
8-oz Geotextile	457,380 SF	Dominion Chesterfield Lower Ash Pond	Chester VA	
60-mil HDPE Textured	43,600 SF	Duke Mayo Additional Pond	Roxboro NC	



Geotextile	43,600 SF	Duke Mayo Additional Pond	Roxboro	NC
30-mil HDPE	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
Geotextile	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
GCL	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
60-mil HDPE	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC
16-oz Geotextile	7,404 SF	Duke Mayo Water Treatment System Pad	Roxboro	NC
8-oz Geotextile	38,044 SF	Duke Mayo Water Treatment System Pad	Roxboro	NC
40-mil LLDPE	45,448 SF	Duke Mayo Water Treatment System Pad	Roxboro	NC
Geocomposite	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
40-mil LLDPE Textured	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
20-mil PVC	57,600 SF	Duke Roxboro Water Treatment System Pad	Semora	NC
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA

Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
Geocomposite	21,000 SF	WM Outer Loop Geocomposite Install Only	Louisville	KY

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## **FIELD TEAM**

**Jose Velazquez**

**Sabino Dorantes**

**Pedro Fernandez**

**Ramiro Hernandez**

**Victor Gutierrez**

**Leonardo Ragoyta**

**Tomas Tello**

**Juan Mendieta**

**Ivan Mendieta**

**Joshua Jean\***

\*Designates new hire



## Velazquez, Jose

Material	Quantity	Project	Location	Completion Date
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
Geotextile	100,000 SF	Keystone Landfill T&M	Dunmore PA	1 /12/2019
40-mil LLDPE	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
60-mil HDPE	174,240 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
GCL	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
30-mil PVC	13,000 SF	Virginia Tech Bioretention Ponds	Blacksburg VA	8 /28/2018
8-oz Geotextile	26,000 SF	Virginia Tech Bioretention Ponds	Blacksburg VA	8 /28/2018
16-oz Geotextile	358,540 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
Geocomposite	181,670 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
GCL	179,270 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
60-mil HDPE	382,156 SF	Mountain View Reclamation Cell 21B2	Greencastle PA	8 /6 /2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
60-mil HDPE Textured	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
Geocomposite	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
GCL	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
40-mil HDPE Smooth	20,700 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017

Geocomposite	450,000 SF	Nelson Dewey Generating Station	Cassville	WI	12/10/2017
GCL	450,000 SF	Nelson Dewey Generating Station	Cassville	WI	12/10/2017
Geotextile	76,000 SF	Nelson Dewey Generating Station	Cassville	WI	12/10/2017
Geocomposite (CoalTex)	100,000 SF	EKPC Spurlock Phase 2	Maysville	KY	11/12/2017
Geocomposite	250,000 SF	EKPC Spurlock Phase 2	Maysville	KY	11/12/2017
30-mil PVC	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite (2)	100,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
GCL	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	500,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile (2)	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
40-mil HDPE Smooth	9,000 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geocomposite	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geotextile	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
GCL	97,700 SF	CVG Airport SADF Detention Basin	Hebron	KY	10/29/2017
60-mil HDPE Textured	97,700 SF	CVG Airport SADF Detention Basin	Hebron	KY	10/29/2017
Geocomposite	161,000 SF	CVG Airport SADF Detention Basin	Hebron	KY	10/29/2017
60-mil HDPE (HLR)	45,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE	150,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
GCL	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
Rain Cover	130,680 SF	EKPC JK Smith 8mil Stockpile Cover	Winchester	KY	10/7 /2017
20-mil Dura-Skrim	1,720,000 SF	Duke Gibson Cell 2 Raincover	Owensville	IN	8 /17/2017
40-mil HDPE	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
10-oz Geotextile	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017

36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE Textured	302,981 SF	Rumpke Pendleton Co Cell 4A	Butler	KY	7 /4 /2017
Geocomposite	185,884 SF	Rumpke Pendleton Co Cell 4A	Butler	KY	7 /4 /2017
10-oz Geotextile	115,995 SF	Rumpke Pendleton Co Cell 4A	Butler	KY	7 /4 /2017
60-mil HDPE	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
16-oz Geotextile	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE (2)	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
Geocomposite	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
16-oz Geotextile	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Wind Defender	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
GCL	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Rain Cover	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
60-mil HDPE	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
60-mil HDPE	85,500 SF	WM Atlantic Waste WWTP Ponds	Waverly	VA	12/23/2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
Closure Turf	52,272 SF	Plant Yates Downchutes	Newnan	GA	11/30/2016
GCL	815,000 SF	Riverview LF	Riverview	MI	11/30/2016

60-mil HDPE	815,000 SF	Riverview LF	Riverview	MI	11/30/2016
Geocomposite	815,000 SF	Riverview LF	Riverview	MI	11/30/2016
10-oz Geotextile	671,000 SF	Carter Hollow Landfill	Manchester	OH	10/26/2016
60-mil HDPE Textured	42,500 SF	Carter Hollow Landfill	Manchester	OH	10/26/2016
GCL	130,000 SF	JH Campbell	West Olive	MI	10/11/2016
Geocomposite	12,750 SF	JH Campbell	West Olive	MI	10/11/2016
GCL	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
Geocomposite	384,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Textured	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
16-oz Geotextile	835,000 SF	Rumpke RSL Phase 10	Cincinnati	OH	9 /30/2016
60-mil HDPE Textured	835,000 SF	Rumpke RSL Phase 10	Cincinnati	OH	9 /30/2016
10-oz Geotextile	2,000,000 SF	Rockport	Rockport	IN	9 /28/2016
30-mil PVC	2,000,000 SF	Rockport	Rockport	IN	9 /28/2016
GCL	978,881 SF	Wexford Co LF Final Cover	Manton	MI	9 /10/2016
30-mil HDPE	100,829 SF	Wexford Co LF Final Cover	Manton	MI	9 /10/2016
40-mil LLDPE Textured	945,990 SF	Wexford Co LF Final Cover	Manton	MI	9 /10/2016
60-mil HDPE Textured	1,463,000 SF	WM Atlantic Waste Temp Cap Phase 1	Waverly	VA	8 /22/2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
Wind Defender	400,000 SF	Ottumwa Rain Cover	Ottumwa	IA	11/22/2015
Rain Cover	400,000 SF	Ottumwa Rain Cover	Ottumwa	IA	11/22/2015
60-mil HDPE Textured	18,000 SF	Roxboro Secondary Containment	Semora	NC	11/11/2015
Geocomposite	18,000 SF	Roxboro Secondary Containment	Semora	NC	11/11/2015
30-mil LLDPE	383,328 SF	WM Chaffee Landfill Temp Cap	Chaffee	NY	11/10/2015
Rain Cover	322,080 SF	WM King George LF Rain Cover 2015	King George	VA	11/3 /2015
40-mil LLDPE	1,327,700 SF	John Sevier	Rogersville	TN	10/26/2015

Geocomposite	1,327,700 SF	John Sevier	Rogersville	TN	10/26/2015
60-mil Textured (2)	355,950 SF	Grasslands LF Phase 1A	Douglas	WY	10/17/2015
60-mil Textured	2,600 SF	Grasslands LF Phase 1A	Douglas	WY	10/17/2015
16-oz Geotextile	2,600 SF	Grasslands LF Phase 1A	Douglas	WY	10/17/2015
Geocomposite	336,225 SF	Grasslands LF Phase 1A	Douglas	WY	10/17/2015
8-oz Geotextile	87,200 SF	Grasslands LF Phase 1A	Douglas	WY	10/17/2015
Wind Defender	230,000 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
Geocomposite	26,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
GCL (2)	26,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
60-mil HDPE Textured	26,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
GCL	22,000 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
30-mil LLDPE Textured	256,329 SF	Wexford Co Leachate Lagoon & Spray Curtain	Manton	MI	8 /28/2015
60-mil HDPE Textured (2)	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Rain Cover	216,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
GCL	288,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured	200,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Geocomposite	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
40-mil HDPE Smooth	261,400 SF	Max Bulgar PA 2014 Cap	Bulger	PA	5 /10/2015
Geocomposite	261,400 SF	Max Bulgar PA 2014 Cap	Bulger	PA	5 /10/2015
6-oz Geotextile	261,400 SF	Max Bulgar PA 2014 Cap	Bulger	PA	5 /10/2015
Geocomposite	235,000 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
Monofilament	166,300 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
60-mil HDPE	375,200 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
10-oz Geotextile	161,100 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015



6-oz Geotextile	56,000 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
GCL	375,200 SF	Smiths Creek	Smiths Creek	MI	4 /16/2015
40-mil LLDPE	342,785 SF	Watts Bar Closure TVA	Spring City	TN	1 /23/2015
Geocomposite	269,406 SF	Watts Bar Closure TVA	Spring City	TN	1 /23/2015
60-mil HDPE	65,000 SF	Refined Metals Corporation	Beech Grove	IN	12/12/2014
Geotextile	65,000 SF	Refined Metals Corporation	Beech Grove	IN	12/12/2014
Geocomposite	65,000 SF	Refined Metals Corporation	Beech Grove	IN	12/12/2014
40-mil	259,753 SF	Cedar Ridge Temporary Cover	Lewisburg	TN	11/30/2014
Wind Defender	419,840 SF	Southern Landfill Wind Defender	Russellville	KY	11/9 /2014
40-mil Textured HDPE	234,000 SF	Trinity South	Hempfield Township	PA	10/23/2014
Geocomposite	234,000 SF	Trinity South	Hempfield Township	PA	10/23/2014
16-oz Geotextile	234,000 SF	Trinity South	Hempfield Township	PA	10/23/2014
GCL	61,077 SF	Leander Lakes	Dover	DE	10/15/2014
24-mil Dura-Skrim	176,761 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
30-mil HDPE	84,093 SF	WM Chaffee Landfill	Chaffee	NY	10/6 /2014
Geocomposite	136,100 SF	Pendelton County Landfill	Butler	KY	9 /13/2014
60-mil HDPE	361,300 SF	Pendelton County Landfill	Butler	KY	9 /13/2014
10-oz Geotextile	225,300 SF	Pendelton County Landfill	Butler	KY	9 /13/2014
60-mil HDPE Textured	454,021 SF	Dunn Landfill	Rensselaer	NY	9 /9 /2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
30-mil LLDPE	42,000 SF	Walmart #4148-00	Charlotte	NC	5 /29/2014
8-oz Geotextile	84,000 SF	Walmart #4148-00	Charlotte	NC	5 /29/2014
Geocomposite	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013

Rain Cover	646,200 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite (2)	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
50-mil PVC	657,000 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite	1,976,900 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
GCL	1,705,400 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
60-mil HDPE	2,031,500 SF	Plant Gorgas Cell 1 & 2	Parrish	AL	12/1 /2013
Geocomposite	468,200 SF	South Carolina International Paper	Eastover	SC	10/1 /2013
60-mil HDPE Textured	468,200 SF	South Carolina International Paper	Eastover	SC	10/1 /2013
Rain Cover	212,400 SF	South Carolina International Paper	Eastover	SC	10/1 /2013
20-mil Geomembrane	135,700 SF	I-95 LF Phase 3B	Lorton	VA	2 /28/2013
12-oz Geotextile	68,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
80-mil HDPE Textured	61,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
60-mil LLDPE Textured	537,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
10-oz Geotextile	680,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
10-oz Geotextile	680,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
60-mil LLDPE Textured	537,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
12-oz Geotextile	68,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
80-mil HDPE Textured	61,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
GCL	237,000 SF	Crystal Rivers North Slope Closure	Crystal Rivers	FL	10/1 /2012
GCL	237,000 SF	Crystal Rivers North Slope Closure	Crystal Rivers	FL	10/1 /2012
10-oz Geotextile	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
60-mil LLDPE Textured	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
10-oz Geotextile	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
60-mil LLDPE Textured	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
12-oz Geotextile	875,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
Rain Cover	330,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012
60-mil HDPE	875,000 SF	Hickory Meadows LF	Hilbert	WI	10/1 /2012

Geocomposite	2,400,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
40-mil LLDPE	1,200,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
Geocomposite	2,400,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
40-mil LLDPE	1,200,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
40-mil HDPE Textured	847,000 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
8-oz Geotextile	19,200 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
8-oz Geotextile	19,200 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
Geocomposite	847,500 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
Geocomposite	847,500 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
40-mil HDPE Textured	847,000 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
Geotextile	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geotextile	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
30-mil PVC	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geocomposite	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geocomposite	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
30-mil PVC	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geocomposite	86,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
Geocomposite	86,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
40-mil LLDPE Textured	860,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
40-mil LLDPE Textured	860,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
40-mil LLDPE Textured	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
40-mil LLDPE Textured	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
Geocomposite	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
Geocomposite	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
40-mil HDPE Textured	1,005,000 SF	Hutsonville Ash Pond	Crawford County	IL	5 /1 /2012
40-mil HDPE Textured	1,005,000 SF	Hutsonville Ash Pond	Crawford County	IL	5 /1 /2012
40-mil LLDPE Textured	980,000 SF	Belews Creek Structural Fill Cap	Belews Creek	NC	4 /1 /2012

Geocomposite	980,000 SF	Belews Creek Structural Fill Cap	Belews Creek	NC	4 /1 /2012
12-oz Geotextile	247,100 SF	First Piedmont	Ringgold	VA	4 /1 /2012
Geocomposite	186,400 SF	First Piedmont	Ringgold	VA	4 /1 /2012
60-mil HDPE Textured	425,100 SF	First Piedmont	Ringgold	VA	4 /1 /2012
6-oz Geotextile	262,800 SF	First Piedmont	Ringgold	VA	4 /1 /2012
40-mil LLDPE Textured	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
Geocomposite	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
Geocomposite	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
40-mil LLDPE Textured	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
60-mil HDPE	139,400 SF	Rumpke OCB 2011 Phase 2	Cincinnati	OH	3 /21/2012
Geocomposite	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
60-mil HDPE Textured	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
Geocomposite	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
60-mil HDPE Textured	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
GCL	2,017,000 SF	Plant Hammond	Rome	GA	2 /1 /2012
Geocomposite	2,017,000 SF	Plant Hammond	Rome	GA	2 /1 /2012
Geocomposite	206,000 SF	International Paper	Pine Hill	AL	10/1 /2011
60-mil HDPE Textured	206,000 SF	International Paper	Pine Hill	AL	10/1 /2011
60-mil HDPE Textured	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
12-oz Geotextile	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
GCL	321,000 SF	Apex LF Phase 5	Amsterdam	OH	9 /1 /2011
10-oz Geotextile	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
GCL	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
16-oz Geotextile	238,000 SF	Norfolk Southern- Lucknow Yard	Harrisburg	PA	9 /1 /2011
10-oz Geotextile	264,000 SF	Ew Brown Ash Pond	Harrodsburg	KY	8 /1 /2011
60-mil LLDPE Textured	264,000 SF	Ew Brown Ash Pond	Harrodsburg	KY	8 /1 /2011
60-mil HDPE Textured	10,000 SF	Lorton LF Cell 3	Lorton	VA	8 /1 /2011

8-oz Geotextile	125,000 SF	Millenium Ash Baltimore	Baltimore	MD	8 /1 /2011
60-mil HDPE Textured	232,000 SF	Millenium Ash Baltimore	Baltimore	MD	8 /1 /2011
40-mil LLDPE Textured	1,094,000 SF	Pecan Row	Valdosta	GA	6 /1 /2011
Geocomposite	1,094,000 SF	Pecan Row	Valdosta	GA	6 /1 /2011
40-mil LLDPE	1,386,300 SF	Perry County Cap	Uniontown	AL	6 /1 /2011
Geocomposite	1,363,000 SF	Perry County Cap	Uniontown	AL	6 /1 /2011
30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
GCL	62,000 SF	Atlantic Lagoon 3 Modifications	Waverly	VA	
60-mil HDPE Textured	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
60-mil HDPE Textured (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile	90,090 SF	Dominion Power Clover Ponds	Clover	VA	
32-oz Geotextile (2)	78,840 SF	Dominion Power Clover Ponds	Clover	VA	
20-mil Rain Cover	240,000 SF	Duke Mayo Monofill LF Emergency Cover	Roxboro	NC	
20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
GCL	19,500 SF	Pike County Landfill	Pikeville	KY	
10-oz Geotextile	19,500 SF	Pike County Landfill	Pikeville	KY	
80-mil Geomembrane	19,500 SF	Pike County Landfill	Pikeville	KY	
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	
12-mil Raincover	200,000 SF	WM Bethel LF 6A Valley Raincover	Hampton	VA	
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA	

Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

# Dorantes, Sabino

Material	Quantity	Project	Location	Completion Date
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
40-mil LLDPE	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
GCL	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
60-mil HDPE	174,240 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
40-mil HDPE Smooth	20,700 SF	West KY Landfill	Mayfield KY	6 /28/2018
Geocomposite	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
GCL	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Textured	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
Geocomposite	450,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
Geotextile	76,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
GCL	450,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
Geocomposite	250,000 SF	EKPC Spurlock Phase 2	Maysville KY	11/12/2017
Geocomposite (CoalTex)	100,000 SF	EKPC Spurlock Phase 2	Maysville KY	11/12/2017
10-oz Geotextile (2)	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire OH	11/1 /2017

GCL	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite (2)	100,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	500,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
30-mil PVC	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geotextile	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
40-mil HDPE Smooth	9,000 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
60-mil HDPE Textured	97,700 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
Geocomposite	161,000 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
GCL	97,700 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
60-mil HDPE	150,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE (HLR)	45,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
GCL	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
Rain Cover	130,680 SF	EKPC JK Smith 8mil Stockpile Cover	Winchester	KY	10/7 /2017
20-mil Dura-Skrim	1,720,000 SF	Duke Gibson Cell 2 Raincover	Owensville	IN	8 /17/2017
10-oz Geotextile	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
40-mil HDPE	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017



GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE Textured	556,127 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
40-mil HDPE Textured	50,400 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
14-oz Geotextile	501,812 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
Rain Cover	110,024 SF	Hoover Mason Raincover	Mt Pleasant	TN	5 /25/2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
16-oz Geotextile	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE (2)	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
Geocomposite	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
GCL	39,498 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Tie In Weld	592 LF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Geocomposite	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
60-mil HDPE Textured	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
60-mil HDPE	85,500 SF	WM Atlantic Waste WWTP Ponds	Waverly	VA	12/23/2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
Geocomposite	30,000 SF	Midshore LF Exposed Cap	Easton	MD	11/1 /2016
60-mil HDPE	3,000,000 SF	Midshore LF Exposed Cap	Easton	MD	11/1 /2016
60-mil HDPE Textured	28,774 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
Rain Cover	121,263 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
GCL	154,487 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016

60-mil HDPE Textured (2)	125,714 SF	Days Cove LF Cell F & G Phase 2	White Marsh	MD	10/18/2016
60-mil HDPE Textured	1,463,000 SF	WM Atlantic Waste Temp Cap Phase 1	Waverly	VA	8 /22/2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
40-mil LLDPE Textured	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
Geocomposite	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
Geocomposite (2)	379,557 SF	HRRC Cell 6	Virginia Beach	VA	5 /8 /2016
Geocomposite	195,659 SF	HRRC Cell 6	Virginia Beach	VA	5 /8 /2016
60-mil HDPE	575,216 SF	HRRC Cell 6	Virginia Beach	VA	5 /8 /2016
30-mil PVC	6,980 SF	Randall Recreation Center Ponds	Washington	DC	12/11/2015
8-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
16-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
60-mil HDPE	513,000 SF	Harford County	Street	MD	12/4 /2015
Rain Cover	1,393,920 SF	WM Atlantic LF Cell 12A, 12b and 12c Rain Cover	Waverly	VA	11/14/2015
60-mil HDPE Smooth	1,172,622 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
Geocomposite	983,547 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
GCL	1,272,446 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
12-oz Geotextile	380,979 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
60-mil HDPE Textured	99,824 SF	Santee Cooper Cell and Pond	Pineville	SC	10/27/2015
20-oz Geotextile	5,881 SF	Backwash WW Equalization Lagoon Liner Replacement	Natrona Heights	PA	9 /23/2015
60-mil HDPE Smooth	5,881 SF	Backwash WW Equalization Lagoon Liner Replacement	Natrona Heights	PA	9 /23/2015

16-oz Geotextile	52,318 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
GCL	52,318 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
60-mil HDPE	52,318 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
Geocomposite	2,354,425 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
8-oz Geotextile	1,039,339 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
40-mil HDPE	2,053,381 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
50-mil HDPE	389,986 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
45-mil RPP	72,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
Geocomposite (2)	414,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
GCL	584,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
30-mil PVC	512,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
Geocomposite	512,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
Rain Cover	216,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
GCL	288,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured (2)	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Geocomposite	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured	200,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Rain Cover	522,000 SF	WM King George LF 24 mil Raincover	King George	VA	2 /27/2015
24-oz Geotextile	84,000 SF	Walmart 6264 Winston-Salem	Winston-Salem	NC	12/4 /2014
40-mil HDPE	44,000 SF	Walmart 6264 Winston-Salem	Winston-Salem	NC	12/4 /2014
8-oz Geotextile	51,000 SF	NMS Healthcare Addition	Hagerstown	MD	10/31/2014
30-mil PVC	51,000 SF	NMS Healthcare Addition	Hagerstown	MD	10/31/2014
45-mil RPP	62,000 SF	NALF Fentress Lagoon Liner Replacement	Chesapeake	VA	10/9 /2014
40-mil HDPE	65,000 SF	Honeygo Sed Trap 5	Perry Hall	MD	9 /13/2014
60-mil HDPE Textured	454,021 SF	Dunn Landfill	Rensselaer	NY	9 /9 /2014
20-mil Dura-Skrim	480,000 SF	Grows/Tullytown Valley Cap 20 mil	Morrisville	PA	9 /4 /2014

80-mil HDPE Textured	25,783 SF	Frederick County Landfill Lagoon & Rain Cover	Winchester	VA	9 /3 /2014
20-mil White/White Woven Coated	462,663 SF	Frederick County Landfill Lagoon & Rain Cover	Winchester	VA	9 /3 /2014
45-mil RPP	40,000 SF	White Marsh Run Mitigation	White Marsh	MD	8 /20/2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
60-mil HDPE	663,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
Geocomposite	240,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
Geocomposite (2)	423,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
60-mil HDPE	5,200 SF	Calverton School	Huntingtown	MD	8 /5 /2014
8-mil Dura-Skrim	540,000 SF	2014 Grows Cell 4A-B Raincover	Morrisville	PA	7 /15/2014
45-mil Reinforced Polypropylene	164,700 SF	Meadow Brook Substation	Stevens City	VA	6 /13/2014
10-oz Geotextile	164,700 SF	Meadow Brook Substation	Stevens City	VA	6 /13/2014
50-mil PVC	657,000 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Rain Cover	646,200 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite (2)	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH	

40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

# Fernandez, Pedro

Material	Quantity	Project	Location	Completion Date
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
Geocomposite	120,000 SF	Old Dominion MEF	Henrico VA	12/10/2018
40-mil HDPE	163,000 SF	Old Dominion MEF	Henrico VA	12/10/2018
Geocomposite	12,000 SF	Duke LV Sutton Cell Repairs	Wilmington NC	11/8 /2018
GCL	12,000 SF	Duke LV Sutton Cell Repairs	Wilmington NC	11/8 /2018
60-mil HDPE	12,000 SF	Duke LV Sutton Cell Repairs	Wilmington NC	11/8 /2018
40-mil LLDPE	15,680 SF	Sampson County - GRC Replacement/Repairs	Roseboro NC	10/29/2018
Raincover	230,240 SF	Sampson County - GRC Replacement/Repairs	Roseboro NC	10/29/2018
20-mil Dura-Skrim	305,100 SF	Augusta Co LF PH4 Raincover	Staunton VA	10/9 /2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
40-mil HDPE Smooth	20,700 SF	West KY Landfill	Mayfield KY	6 /28/2018
Geocomposite	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Textured	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
Geocomposite	450,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
GCL	450,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
Geotextile	76,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017

8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh	OH	12/6 /2017
Geocomposite	250,000 SF	EKPC Spurlock Phase 2	Maysville	KY	11/12/2017
Geocomposite (CoalTex)	100,000 SF	EKPC Spurlock Phase 2	Maysville	KY	11/12/2017
10-oz Geotextile (2)	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	500,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
GCL	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite (2)	100,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
30-mil PVC	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
40-mil HDPE Smooth	9,000 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geocomposite	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geotextile	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geocomposite	161,000 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
60-mil HDPE Textured	97,700 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
GCL	97,700 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
60-mil HDPE (HLR)	45,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE	150,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
GCL	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
Rain Cover	130,680 SF	EKPC JK Smith 8mil Stockpile Cover	Winchester	KY	10/7 /2017
20-mil Dura-Skrim	1,720,000 SF	Duke Gibson Cell 2 Raincover	Owensville	IN	8 /17/2017
40-mil HDPE	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
10-oz Geotextile	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017

Rain Cover	110,024 SF	Hoover Mason Raincover	Mt Pleasant	TN	5 /25/2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
60-mil HDPE	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE (2)	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
Geocomposite	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
16-oz Geotextile	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
GCL	39,498 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Tie In Weld	592 LF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Geocomposite	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
60-mil HDPE Textured	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
40-mil LLDPE	856,000 SF	TVA John Sevier Bottom Ash Closure	Rogersville	TN	2 /14/2017
Geocomposite	856,000 SF	TVA John Sevier Bottom Ash Closure	Rogersville	TN	2 /14/2017
Wind Defender	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Rain Cover	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
60-mil HDPE	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
GCL	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
16-oz Geotextile	335,000 SF	Macon County MSW Phase 3 Cell 1 Franklin		NC	12/28/2016
Closure Turf	52,272 SF	Plant Yates Downchutes	Newnan	GA	11/30/2016
Geocomposite	815,000 SF	Riverview LF	Riverview	MI	11/30/2016
60-mil HDPE	815,000 SF	Riverview LF	Riverview	MI	11/30/2016
GCL	815,000 SF	Riverview LF	Riverview	MI	11/30/2016
40-mil LLDPE	26,000 SF	Duke Pine Hall Road Diversion	Walnut Cove	NC	11/23/2016



Geocomposite	26,000 SF	Duke Pine Hall Road Diversion	Walnut Cove	NC	11/23/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016
Geocomposite	384,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
GCL	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Textured	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
40-mil LLDPE Textured	2,800,000 SF	TVA Colbert Closure	Tuscumbia	AL	8 /17/2016
Geocomposite	2,800,000 SF	TVA Colbert Closure	Tuscumbia	AL	8 /17/2016
Geotextile	2,800,000 SF	TVA Colbert Closure	Tuscumbia	AL	8 /17/2016
8-oz Geotextile	294,445 SF	Rochelle Landfill	Rochelle	IL	8 /9 /2016
60 mil HD Textured	53,998 SF	Rochelle Landfill	Rochelle	IL	8 /9 /2016
60-mil HDPE Textured	925 LF	Rochelle Landfill	Rochelle	IL	8 /9 /2016
60-mil HDPE Smooth	243,051 SF	Rochelle Landfill	Rochelle	IL	8 /9 /2016
4-oz Geotextile	283,661 LF	Rochelle Landfill	Rochelle	IL	8 /9 /2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
80-mil HDPE Smooth	25,000 SF	Cliffside Gypsum Improvements	Spartanburg	SC	4 /15/2016
Embed Welding	1,600 LF	Cliffside Gypsum Improvements	Spartanburg	SC	4 /15/2016
80-mil HDPE Smooth (2)	24,000 SF	Cliffside Gypsum Improvements	Spartanburg	SC	4 /15/2016
Rain Cover	261,360 SF	Duke Roxboro Gypsum	Semora	NC	2 /26/2016
100-mil Floating Cover	30,756 SF	Griffin Industries-Bastrop Facility	Bastrop	TX	12/19/2015
16-oz Geotextile	239,600 SF	EW Brown Phase 1 Cell	Harrodsburg	KY	12/12/2015
Geocomposite	1,854,000 SF	EW Brown Phase 1 Cell	Harrodsburg	KY	12/12/2015
GCL	2,014,000 SF	EW Brown Phase 1 Cell	Harrodsburg	KY	12/12/2015
Rain Cover	24,740 SF	Duke Cliffside Ash LF	Mooresboro	NC	11/24/2015

30-mil Geomembrane	68,718 SF	Duke Cliffside Ash LF	Moorestboro	NC	11/24/2015
60-mil HDPE	677,825 SF	Duke Cliffside Ash LF	Moorestboro	NC	11/24/2015
GCL	677,825 SF	Duke Cliffside Ash LF	Moorestboro	NC	11/24/2015
Geocomposite	677,825 SF	Duke Cliffside Ash LF	Moorestboro	NC	11/24/2015
Geocomposite	1,327,700 SF	John Sevier	Rogersville	TN	10/26/2015
40-mil LLDPE	1,327,700 SF	John Sevier	Rogersville	TN	10/26/2015
60-mil HDPE	39,000 SF	Duke Weatherspoon Secondary Containment	Lumberton	NC	9 /30/2015
Geocomposite	39,000 SF	Duke Weatherspoon Secondary Containment	Lumberton	NC	9 /30/2015
60-mil HDPE	99,000 SF	Kingston Pad & Swale Liner	Harriman	TN	9 /16/2015
16-oz Geotextile	99,000 SF	Kingston Pad & Swale Liner	Harriman	TN	9 /16/2015
60-mil HDPE Textured	200,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Rain Cover	216,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
GCL	288,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured (2)	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Geocomposite	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured	233,020 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
Rain Cover	891,920 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
GCL	878,920 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
Geocomposite	693,573 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
12-oz Geotextile	195,710 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
60-mil HDPE Smooth	645,870 SF	Rowan County LF	Woodleaf	NC	6 /5 /2015
Geotextile	372,000 SF	Medora Landfill Cell 8 & 9 East & CA Piggyback	Medora	IN	9 /14/2014
60-mil HDPE	331,000 SF	Medora Landfill Cell 8 & 9 East & CA Piggyback	Medora	IN	9 /14/2014
20-mil Dura-Skrim	480,000 SF	Grows/Tullytown Valley Cap 20 mil	Morrisville	PA	9 /4 /2014

80-mil HDPE Textured	25,783 SF	Frederick County Landfill Lagoon & Rain Cover	Winchester	VA	9 /3 /2014
20-mil White/White Woven Coated	462,663 SF	Frederick County Landfill Lagoon & Rain Cover	Winchester	VA	9 /3 /2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
60-mil HDPE	663,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
Geocomposite (2)	423,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
Geocomposite	240,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
Rain Cover	3,600 SF	Loudoun County Landfill Raincover Repair	Leesburg	VA	8 /5 /2014
8-oz Geotextile	140,000 SF	Wilmington Vertical Expansion	Wilmington	OH	6 /29/2014
60-mil HDPE	146,500 SF	Wilmington Vertical Expansion	Wilmington	OH	6 /29/2014
Geocomposite	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Rain Cover	646,200 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite (2)	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
50-mil PVC	657,000 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite	200,000 SF	Pendleton	Butler	KY	12/1 /2013
60-mil HDPE	400,000 SF	Pendleton	Butler	KY	12/1 /2013
10-oz Geotextile	200,000 SF	Pendleton	Butler	KY	12/1 /2013
16-oz Geotextile	335,300 SF	Medora LF Cell 8 & 9 West & Leachate Basin	Medora	IN	10/1 /2013
60-mil HDPE	425,300 SF	Medora LF Cell 8 & 9 West & Leachate Basin	Medora	IN	10/1 /2013
GCL	45,000 SF	Medora LF Cell 8 & 9 West & Leachate Basin	Medora	IN	10/1 /2013
60-mil HDPE	528,000 SF	RSL 10A	Cincinnati	OH	10/1 /2013
8-oz Geotextile	528,000 SF	RSL 10A	Cincinnati	OH	10/1 /2013
80-mil HDPE Textured	61,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012

60-mil LLDPE Textured	537,200 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
12-oz Geotextile	68,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
10-oz Geotextile	680,900 SF	Cooper Power Plant Lagoon	Somerset	KY	11/1 /2012
GCL	237,000 SF	Crystal Rivers North Slope Closure	Crystal Rivers	FL	10/1 /2012
10-oz Geotextile	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
60-mil LLDPE Textured	2,516,000 SF	Ghent Landfill	Ghent	KY	10/1 /2012
Geocomposite	2,400,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
40-mil LLDPE	1,200,000 SF	Haleys Pike Install	Lexington	KY	8 /1 /2012
Geocomposite	847,500 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
40-mil HDPE Textured	847,000 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
8-oz Geotextile	19,200 SF	Zion Landfill Cap	Zion	IL	7 /1 /2012
Geotextile	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
Geocomposite	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
30-mil PVC	260,000 SF	Delaware County LF Cap	Boyertown	PA	6 /1 /2012
40-mil LLDPE Textured	860,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
Geocomposite	86,000 SF	Medora LF Cell 1 & 2	Medora	IN	6 /1 /2012
40-mil LLDPE Textured	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
Geocomposite	1,829,500 SF	Oak Ridge Landfill Cap	Ballwin	MO	6 /1 /2012
40-mil HDPE Textured	1,005,000 SF	Hutsonville Ash Pond	Crawford County	IL	5 /1 /2012
Geocomposite	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
40-mil LLDPE Textured	892,000 SF	Holmes County Final Cap	Millersburg	OH	4 /1 /2012
Geocomposite	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
60-mil HDPE Textured	604,000 SF	HR Recovery Cell 4	Virginia Beach	VA	3 /1 /2012
30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	

GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA
40-mil LLDPE	13,590 SF	Duke Belews WTS Pad Liner	Walnut Cove	NC
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

# Hernandez, Ramiro

Material	Quantity	Project	Location	Completion Date
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
40-mil LLDPE	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
GCL	87,120 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
60-mil HDPE	174,240 SF	Winchester VA Leachate Lagoon	Winchester VA	12/15/2018
Geocomposite	329,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
60-mil HDPE	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	472,000 SF	South Kent Co LF	Byron Center MI	7 /23/2018
GCL	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
Geocomposite	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Textured	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
40-mil HDPE Smooth	20,700 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm WV	12/16/2017
Geotextile	76,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
Geocomposite	450,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
GCL	450,000 SF	Nelson Dewey Generating Station	Cassville WI	12/10/2017
60-mil HDPE Textured	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
8-oz Geotextile (2)	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
8-oz Geotextile	724,750 SF	Rumpke Noble Road Landfill	Shiloh OH	12/6 /2017
Geocomposite (CoalTex)	100,000 SF	EKPC Spurlock Phase 2	Maysville KY	11/12/2017
Geocomposite	250,000 SF	EKPC Spurlock Phase 2	Maysville KY	11/12/2017
10-oz Geotextile (2)	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire OH	11/1 /2017

Geocomposite (2)	100,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
GCL	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geocomposite	500,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
30-mil PVC	2,000,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
10-oz Geotextile	1,400,000 SF	AEP Gavin Landfill Extension	Cheshire	OH	11/1 /2017
Geotextile	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
40-mil HDPE Smooth	9,000 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
Geocomposite	4,500 SF	Lehigh Logansport Secondary Containment	Logansport	IN	11/1 /2017
GCL	97,700 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
60-mil HDPE Textured	97,700 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
Geocomposite	161,000 SF	CVG Airport SADF Detention Basin Hebron		KY	10/29/2017
60-mil HDPE	150,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE (HLR)	45,000 SF	Louisa Generating Station	Muscatine	IA	10/28/2017
60-mil HDPE	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
GCL	100,000 SF	Ottawa Farms Landfill	Coopersville	MI	10/12/2017
Rain Cover	130,680 SF	EKPC JK Smith 8mil Stockpile Cover	Winchester	KY	10/7 /2017
20-mil Dura-Skrim	1,720,000 SF	Duke Gibson Cell 2 Raincover	Owensville	IN	8 /17/2017
40-mil HDPE	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
10-oz Geotextile	1,400,000 SF	JR Whiting	Erie	MI	7 /25/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017

60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
40-mil HDPE Textured	50,400 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
60-mil HDPE Textured	556,127 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
14-oz Geotextile	501,812 SF	Taylor LF, Cells Q & P	Chesterfield	VA	7 /16/2017
16-oz Geotextile	413,430 SF	IP Georgetown	Georgetown	SC	6 /30/2017
60-mil HDPE Textured	413,430 SF	IP Georgetown	Georgetown	SC	6 /30/2017
Rain Cover	104,111 SF	IP Georgetown	Georgetown	SC	6 /30/2017
Rain Cover	110,024 SF	Hoover Mason Raincover	Mt Pleasant	TN	5 /25/2017
60-mil HDPE Textured	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
Geocomposite	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
GCL	85,000 SF	Laurel Ridge LF	Lily	KY	5 /7 /2017
16-oz Geotextile	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
Geocomposite	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE	2,000 LF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
60-mil HDPE (2)	500,000 SF	EKPC Spurlock Area C Phase 3 LF Expansion	Maysville	KY	4 /26/2017
Tie In Weld	592 LF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
Geocomposite	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
60-mil HDPE Textured	78,996 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
GCL	39,498 SF	Chrin LF Stage 8 Increment 4	Easton	PA	4 /20/2017
30-mil HDPE Smooth	79,860 SF	WM Chaffee LF Temp Cover Rainflap	Chaffee	NY	1 /13/2017
Geocomposite	100,000 SF	Plum Point Leachate Storage Pond	Osceola	AR	10/29/2016
60-mil HDPE	100,000 SF	Plum Point Leachate Storage Pond	Osceola	AR	10/29/2016
60-mil HDPE Textured	42,500 SF	Carter Hollow Landfill	Manchester	OH	10/26/2016
10-oz Geotextile	671,000 SF	Carter Hollow Landfill	Manchester	OH	10/26/2016



Geocomposite	50,000 SF	Waterloo	Waterloo	NY	10/16/2016
GCL	65,000 SF	Waterloo	Waterloo	NY	10/16/2016
GCL	27,600 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil HDPE Textured	684 LF	American LF Temp Cover	Waynesburg	OH	10/10/2016
60-mil LLDPE Textured	98,678 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
Geocomposite	90,955 SF	American LF Temp Cover	Waynesburg	OH	10/10/2016
40-mil HDPE	1,225 LF	Bradley Co. LF	McDonald	TN	10/8 /2016
8-oz Geotextile	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
60-mil HDPE Textured	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
GCL	218,825 SF	Bradley Co. LF	McDonald	TN	10/8 /2016
60-mil HDPE Textured	835,000 SF	Rumpke RSL Phase 10	Cincinnati	OH	9 /30/2016
16-oz Geotextile	835,000 SF	Rumpke RSL Phase 10	Cincinnati	OH	9 /30/2016
GCL	20,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
4-oz Geotextile	526,500 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
8-oz Geotextile	537,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Smooth	432,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
60-mil HDPE Textured	112,000 SF	Winnebago LF Cell W3	Rockford	IL	9 /17/2016
GCL	87,000 SF	EKPC Coal Pile Runoff Pond	Maysville	KY	8 /28/2016
16-oz Geotextile	162,000 SF	EKPC Coal Pile Runoff Pond	Maysville	KY	8 /28/2016
Rain Cover	261,360 SF	Duke Roxboro Gypsum	Semora	NC	2 /26/2016
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD	
6-oz Geotextile	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	
20-mil Raincover	102,600 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA	

50-mil HDPE Super GripNet	657,100 SF	Mountain View Reclamation Eastern Tract 2 Cap	Greencastle	PA
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

# Gutierrez, Victor

Material	Quantity	Project	Location	Completion Date
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
10-oz Geotextile	1,075,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
16-oz Geotextile	571,500 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
GCL	684,000 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
60-mil HDPE Textured	927,234 SF	Duke Mayo Water Redirect	Roxboro NC	2 /3 /2019
30-mil HDPE	8,328 LF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
10-oz Geotextile	603,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Geocomposite	88,500 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
GCL	1,600,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Wind Defender	1,300,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
60-mil HDPE	1,800,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
16-oz Geotextile	808,000 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
Raincover	601,700 SF	Duke Roxboro Water Redirect	Semora NC	12/15/2018
12-oz Geotextile	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
Geocomposite	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
40-mil LLDPE Textured	1,415,700 SF	TVA Kingston Stilling Pond Closure	Harriman TN	6 /26/2018
16-oz Geotextile	300,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
12-mil Dura-Skrim	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
40-mil HDPE	300,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
60-mil HDPE Textured	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
GCL	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
Geocomposite	350,000 SF	WestRock Covington Cell	Covington VA	6 /21/2018
60-mil HDPE	1,000,000 SF	Plant Hammond Ash Pond 3 Closure	Rome GA	1 /25/2018

Geocomposite	1,000,000 SF	Plant Hammond Ash Pond 3 Closure	Rome	GA	1 /25/2018
60-mil HDPE Textured	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD	12/15/2017
8-oz Geotextile	840,000 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD	12/15/2017
60 mil Textured HDPE Secondary	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD	12/15/2017
GCL	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD	12/15/2017
50-mil HDPE (Super Gripnet)	875,000 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD	12/15/2017
Geocomposite	30,487 SF	Northern LF Cells 1 & 2 Closure and Leachate Ponds	Westminster	MD	12/15/2017
40-mil HDPE Textured	1,100 LF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geocomposite	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
60-mil HDPE Textured	301,371 SF	Volunteer Landfill	Oneida	TN	12/3 /2017
Geotextile	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
Geocomposite	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
40-mil LLDPE Textured	2,326,755 SF	TVA Colbert Ash Pond 4 Closure	Tuscumbia	AL	11/18/2017
60-mil HDPE Textured	189,615 SF	Rhea County Landfill	Dayton	TN	11/6 /2017
16-oz Geotextile	189,615 SF	Rhea County Landfill	Dayton	TN	11/6 /2017
GCL	189,615 SF	Rhea County Landfill	Dayton	TN	11/6 /2017
60-mil HDPE	631,000 SF	HRRC Landfill - Cell 5	Virginia Beach	VA	10/20/2017
Geocomposite (2)	222,000 SF	HRRC Landfill - Cell 5	Virginia Beach	VA	10/20/2017
Geocomposite	410,000 SF	HRRC Landfill - Cell 5	Virginia Beach	VA	10/20/2017
40-mil LLDPE Textured	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
12-oz Geotextile.	124,690 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017

40-mil LLDPE Textured (2)	663,414 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
60-mil LLDPE Textured	11,000 SF	TVA Bull Run Sluice Channel	Clinton	TN	8 /4 /2017
Geocomposite	203,000 SF	Procter and Gamble Site - Ash Pond Closure	Cincinnati	OH	8 /2 /2017
40-mil LLDPE	203,000 SF	Procter and Gamble Site - Ash Pond Closure	Cincinnati	OH	8 /2 /2017
Rain Cover (2)	440,000 SF	2017 Fairless Raincover	Morrisville	PA	8 /1 /2017
Rain Cover	401,000 SF	2017 Fairless Raincover	Morrisville	PA	8 /1 /2017
GCL	18,000 SF	Georgia Power - Plant Yates Temporary Water Treatment Pads	Newnan	GA	7 /28/2017
60-mil HDPE	18,000 SF	Georgia Power - Plant Yates Temporary Water Treatment Pads	Newnan	GA	7 /28/2017
60-mil HDPE	1,853,408 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil LLDPE Floating Cover	209,982 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
36-mil RPE Floating Cover	777,917 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
GCL	1,639,049 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
80-mil HDPE Floating Cover	186,375 SF	WM Atlantic LF Miscellaneous Work	Waverly	VA	7 /18/2017
60-mil HDPE Textured	73,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
10-oz Geotextile	146,000 SF	AEP John Amos	Winfield	WV	7 /17/2017
40-mil LLDPE	550,000 SF	NIPSCO	Wheatfield	IN	7 /7 /2017
Geocomposite	47,000 SF	NIPSCO	Wheatfield	IN	7 /7 /2017
60-mil HDPE Textured	302,981 SF	Rumpke Pendleton Co Cell 4A	Butler	KY	7 /4 /2017
Geocomposite	185,884 SF	Rumpke Pendleton Co Cell 4A	Butler	KY	7 /4 /2017
10-oz Geotextile	115,995 SF	Rumpke Pendleton Co Cell 4A	Butler	KY	7 /4 /2017
60-mil HDPE	85,500 SF	WM Atlantic Waste WWTP Ponds	Waverly	VA	12/23/2016
60-mil LLDPE	187,070 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016

80-mil LLDPE	164,329 SF	WM Atlantic LF Floating Covers	Waverly	VA	12/2 /2016
60-mil HDPE	3,000,000 SF	Midshore LF Exposed Cap	Easton	MD	11/1 /2016
Geocomposite	30,000 SF	Midshore LF Exposed Cap	Easton	MD	11/1 /2016
60-mil HDPE Textured	1,463,000 SF	WM Atlantic Waste Temp Cap Phase 1	Waverly	VA	8 /22/2016
Wind Defender	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
60-mil HDPE	315,396 SF	WM Atlantic Waste Western Slope Cap	Waverly	VA	8 /7 /2016
80-mil HDPE Embedment Liner	37,700 SF	Patapsco WWTP 845R	Baltimore	MD	7 /14/2016
Geocomposite	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
40-mil LLDPE Textured	900,000 SF	Spencer's East Site Rubble Landfill Closure	Abingdon	MD	5 /21/2016
30-mil PVC	6,980 SF	Randall Recreation Center Ponds	Washington	DC	12/11/2015
16-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
8-oz Geotextile	513,000 SF	Harford County	Street	MD	12/4 /2015
60-mil HDPE	513,000 SF	Harford County	Street	MD	12/4 /2015
Rain Cover	1,393,920 SF	WM Atlantic LF Cell 12A, 12b and 12c Rain Cover	Waverly	VA	11/14/2015
8-oz Geotextile	1,039,339 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
16-oz Geotextile	52,318 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
Geocomposite	2,354,425 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
40-mil HDPE	2,053,381 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
60-mil HDPE	52,318 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
GCL	52,318 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
50-mil HDPE	389,986 SF	Westland Ash Closure	Dickerson	MD	8 /30/2015
Geocomposite (2)	414,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
30-mil PVC	512,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015

GCL	584,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
Geocomposite	512,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
45-mil RPP	72,000 SF	AEP Mitchell Landfill	Proctor	WV	7 /28/2015
60-mil HDPE Textured	200,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Geocomposite	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
60-mil HDPE Textured (2)	88,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
GCL	288,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Rain Cover	216,000 SF	Days Cove LF Cells I F & G	White Marsh	MD	7 /19/2015
Geotextile	500,000 SF	Ottumwa Landfill	Ottumwa	IA	4 /17/2015
60-mil HDPE Textured	500,000 SF	Ottumwa Landfill	Ottumwa	IA	4 /17/2015
Geocomposite	420,000 SF	Ottumwa Landfill	Ottumwa	IA	4 /17/2015
GCL	2,500 SF	Ottumwa Landfill	Ottumwa	IA	4 /17/2015
Rain Cover	522,000 SF	WM King George LF 24 mil Raincover	King George	VA	2 /27/2015
40-mil HDPE	44,000 SF	Walmart 6264 Winston-Salem	Winston-Salem	NC	12/4 /2014
24-oz Geotextile	84,000 SF	Walmart 6264 Winston-Salem	Winston-Salem	NC	12/4 /2014
30-mil PVC	51,000 SF	NMS Healthcare Addition	Hagerstown	MD	10/31/2014
8-oz Geotextile	51,000 SF	NMS Healthcare Addition	Hagerstown	MD	10/31/2014
45-mil RPP	62,000 SF	NALF Fentress Lagoon Liner Replacement	Chesapeake	VA	10/9 /2014
40-mil HDPE	65,000 SF	Honeygo Sed Trap 5	Perry Hall	MD	9 /13/2014
60-mil HDPE Textured	454,021 SF	Dunn Landfill	Rensselaer	NY	9 /9 /2014
20-mil Dura-Skrim	480,000 SF	Grows/Tullytown Valley Cap 20 mil	Morrisville	PA	9 /4 /2014
80-mil HDPE Textured	25,783 SF	Frederick County Landfill Lagoon & Rain Cover	Winchester	VA	9 /3 /2014
20-mil White/White Woven Coated	462,663 SF	Frederick County Landfill Lagoon & Rain Cover	Winchester	VA	9 /3 /2014
45-mil RPP	40,000 SF	White Marsh Run Mitigation	White Marsh	MD	8 /20/2014
8-oz Geotextile	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014

8-oz Geotextile (2)	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
60-mil HDPE	389,000 SF	Noble Road Landfill	Shiloh	OH	8 /14/2014
Geocomposite	240,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
60-mil HDPE	663,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
Geocomposite (2)	423,000 SF	Hampton Road Recovery Center	Virginia Beach	VA	8 /6 /2014
60-mil HDPE	5,200 SF	Calverton School	Huntingtown	MD	8 /5 /2014
8-mil Dura-Skrim	540,000 SF	2014 Grows Cell 4A-B Raincover	Morrisville	PA	7 /15/2014
10-oz Geotextile	164,700 SF	Meadow Brook Substation	Stevens City	VA	6 /13/2014
45-mil Reinforced Polypropylene	164,700 SF	Meadow Brook Substation	Stevens City	VA	6 /13/2014
Geocomposite	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Geocomposite (2)	1,212,500 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
Rain Cover	646,200 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
50-mil PVC	657,000 SF	Eastern Sanitary Landfill Phase X	White Marsh	MD	12/1 /2013
80-mil HDPE	300,000 SF	Montebello Plant 2 Finished Reservoir Cover	Baltimore	MD	10/1 /2013
Geocomposite	300,000 SF	Montebello Plant 2 Finished Reservoir Cover	Baltimore	MD	10/1 /2013
60-mil HDPE	71,940 SF	Dismal Swamp WWTP Liner Replacement	South Mills	NC	
GCL	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC	
30-mil HDPE	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC	
60-mil HDPE	51,700 SF	Duke Mayo Stormwater Redirect	Roxboro	NC	
Geotextile	40,400 SF	Duke Mayo Stormwater Redirect	Roxboro	NC	
16-oz Geotextile	37,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC	
GCL	128,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC	
10-oz Geotextile	445,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC	



60-mil HDPE	128,000 SF	Duke Mayo Water Redirect - Holding Basin	Roxboro	NC
40-mil LLDPE Textured	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
Geocomposite	197,500 SF	Duke Roxboro - Area A Closure	Semora	NC
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall	MD
40-mil HDPE	450,000 SF	JH Campbell.	West Olive	MI
GCL	352,000 SF	JH Campbell.	West Olive	MI
60-mil LLDPE	80,000 SF	JH Campbell.	West Olive	MI
12-oz Geotextile	80,000 SF	JH Campbell.	West Olive	MI
60-mil HDPE	1,340,000 SF	JH Campbell.	West Olive	MI
Geocomposite	88,000 SF	JH Campbell.	West Olive	MI
10-oz Geotextile	450,000 SF	JH Campbell.	West Olive	MI
8-oz Geotextile	88,000 SF	JH Campbell.	West Olive	MI
Geotextile	432,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
30-mil PVC	345,000 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
40-mil HDPE Textured	87,120 SF	LCT Laurel Plant Sediment Ponds	Central City	PA
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

# Ragoyta, Leonardo

Material	Quantity	Project	Location	Completion Date
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
Geocomposite	163,000 SF	Santee Cooper - Winyah Ponds	Georgetown SC	2 /20/2019
60-mil HDPE	415,000 SF	Santee Cooper - Winyah Ponds	Georgetown SC	2 /20/2019
GCL	445,000 SF	Santee Cooper - Winyah Ponds	Georgetown SC	2 /20/2019
Geotextile	415,000 SF	Santee Cooper - Winyah Ponds	Georgetown SC	2 /20/2019
Geocomposite	400,752 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
10-oz Geotextile	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
40-mil LLDPE Textured	204,732 SF	Republic Honeygo Ph 3 Cap Install Only	Perry Hall MD	12/14/2018
Wind Defender	139,000 SF	Frey Farm LF Raincover & Wind Defender	Conestoga PA	12/2 /2018
12-mil Dura-Skrim	139,300 SF	Frey Farm LF Raincover & Wind Defender	Conestoga PA	12/2 /2018
Geocomposite	12,000 SF	Duke LV Sutton Cell Repairs	Wilmington NC	11/8 /2018
GCL	12,000 SF	Duke LV Sutton Cell Repairs	Wilmington NC	11/8 /2018
60-mil HDPE	12,000 SF	Duke LV Sutton Cell Repairs	Wilmington NC	11/8 /2018
Wind Defender	3,898,620 SF	Dominion Chesterfield Lower Ash Pond	Chester VA	
40-mil HDPE Textured	4,356,000 SF	Dominion Chesterfield Lower Ash Pond	Chester VA	
8-oz Geotextile	457,380 SF	Dominion Chesterfield Lower Ash Pond	Chester VA	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall MD	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall MD	

Geocomposite	300,000 SF	Raven Power Lot 15	Baltimore	MD
Rain Cover	150,000 SF	Raven Power Lot 15	Baltimore	MD
8-oz Geotextile	300,000 SF	Raven Power Lot 15	Baltimore	MD
60-mil HDPE	360,000 SF	Raven Power Lot 15	Baltimore	MD
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria	OH
40-mil HDPE	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton	VA
Wind Defender	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton	VA
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA

# Tello, Tomas

Material	Quantity	Project	Location	Completion Date
Geocomposite	254,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
60-mil HDPE Textured	255,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
10-oz Geotextile	33,000 SF	Pendleton Co Cell 4B & Slide Remediation	Butler KY	12/15/2018
12-oz Geotextile	450,000 SF	Metro Park East Landfill	Mitchellville IA	12/6 /2018
60-mil HDPE	450,000 SF	Metro Park East Landfill	Mitchellville IA	12/6 /2018
Geocomposite	400,000 SF	Metro Park East Landfill	Mitchellville IA	12/6 /2018
40-mil LLDPE	400,000 SF	Metro Park East Landfill	Mitchellville IA	12/6 /2018
Rain Cover	300,000 SF	Metro Park East Landfill	Mitchellville IA	12/6 /2018
60-mil HDPE Textured	300,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
16-oz Geotextile	455,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
30-mil PVC	30,500 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
GCL	300,000 SF	Duke Cliffside - Water Direct	Mooresboro NC	11/29/2018
GCL	24,000 SF	Waste Industries Wet Pond	High Point NC	9 /22/2018
GCL	212,000 SF	Montgomery Co LF Cell 4	Jeffersonville KY	8 /10/2018
6-oz Geotextile	147,000 SF	Montgomery Co LF Cell 4	Jeffersonville KY	8 /10/2018
60-mil HDPE Textured	212,000 SF	Montgomery Co LF Cell 4	Jeffersonville KY	8 /10/2018
Geocomposite	67,000 SF	Montgomery Co LF Cell 4	Jeffersonville KY	8 /10/2018
Gundseal	140,744 SF	Plant Gorgas WWM Pond	Parrish AL	7 /30/2018
16-oz Geotextile	88,200 SF	Plant Gorgas WWM Pond	Parrish AL	7 /30/2018
40-mil HDPE Textured	73,780 SF	Plant Gorgas WWM Pond	Parrish AL	7 /30/2018
GCL	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018
40-mil HDPE Smooth	20,700 SF	West KY Landfill	Mayfield KY	6 /28/2018
60-mil HDPE Textured	210,148 SF	West KY Landfill	Mayfield KY	6 /28/2018

Geocomposite	210,148 SF	West KY Landfill	Mayfield	KY	6 /28/2018
40-mil LLDPE	5,700 SF	Brunswick LF Cell 4C Berm	Lawrenceville	VA	5 /28/2018
Wind Defender	217,800 SF	WM Maplewood Temp Cap	Jetersville	VA	5 /26/2018
40-mil HDPE	217,800 SF	WM Maplewood Temp Cap	Jetersville	VA	5 /26/2018
6-oz Geotextile	75,000 SF	Thoroughbred LF	Lexington	KY	5 /15/2018
60-mil HDPE Textured	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
32-oz Geotextile	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
GCL	43,560 SF	Mount Storm Pyrite Pond	Mt Storm	WV	12/16/2017
20-mil Dura-Skrim	1,700,000 SF	Duke Gibson Cell 3 Raincover	Owensville	IN	7 /10/2017
GCL	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
Geocomposite	384,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
60-mil HDPE Textured	429,000 SF	Asheville Phase 3	Arden	NC	10/3 /2016
10-oz Geotextile	100,000 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
GCL	619,000 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
60-mil HDPE Textured	159,100 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
60-mil Textured	850,500 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
Geocomposite	369,000 SF	Cooper Power Plant 2013 Expansion	Somerset	KY	12/1 /2013
60-mil HDPE	400,000 SF	Pendleton	Butler	KY	12/1 /2013
Geocomposite	200,000 SF	Pendleton	Butler	KY	12/1 /2013
10-oz Geotextile	200,000 SF	Pendleton	Butler	KY	12/1 /2013
GCL	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
Geocomposite	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
10-oz Geotextile	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013
60-mil HDPE	642,600 SF	New Georgia Landfill	Birmingham	AL	10/1 /2013

60-mil HDPE	528,000 SF	Beech Hollow	Wellston	OH	8 /1 /2013
8-oz Geotextile	528,000 SF	Beech Hollow	Wellston	OH	8 /1 /2013
Geocomposite	518,000 SF	Plum Point Cell & Leachate Systems	Osceola	AR	3 /1 /2013
60-mil HDPE	617,000 SF	Plum Point Cell & Leachate Systems	Osceola	AR	3 /1 /2013
30-mil HDPE Textured	217,800 SF	Asheville Airport Phase 2	Arden	NC	3 /1 /2011
40-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
60-mil HDPE	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
Geocomposite	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
GCL	1,200,000 SF	Atlantic Cell 7A-7C Addendum	Waverly	VA	
12-mil Rain Cover	3,354,120 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
10-oz Geotextile	3,283,830 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
Geocomposite	1,513,690 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
16-oz Geotextile	4,848,525 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
Wind Defender	3,354,120 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
50-mil PVC	3,283,830 SF	Curley Hollow LF Stage 2A	St. Paul	VA	
GCL	769,973 SF	Duke Allen Steam Station - Water Direct	Belmont	NC	
10-oz Geotextile	769,973 SF	Duke Allen Steam Station - Water Direct	Belmont	NC	
60-mil HDPE	769,973 SF	Duke Allen Steam Station - Water Direct	Belmont	NC	
30-mil PVC	43,000 SF	Duke Allen Steam Station - Water Direct	Belmont	NC	
GCL	6,000 SF	Highpoint Landfill C&D - GCL	Jamestown	NC	
40-mil HDPE	300,000 SF	Plant Gaston Gypsum Pond Overliner	Wilsonville	AL	
Geocomposite	300,000 SF	Raven Power Lot 15	Baltimore	MD	
Rain Cover	150,000 SF	Raven Power Lot 15	Baltimore	MD	

8-oz Geotextile	300,000 SF	Raven Power Lot 15	Baltimore	MD
60-mil HDPE	360,000 SF	Raven Power Lot 15	Baltimore	MD
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville	PA
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville	PA
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville	VA
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville	VA
GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA



# Mendieta, Juan

Material	Quantity	Project	Location	Completion Date
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
GCL	62,000 SF	Atlantic Lagoon 3 Modifications	Waverly VA	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall MD	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall MD	
GCL	19,500 SF	Pike County Landfill	Pikeville KY	
80-mil Geomembrane	19,500 SF	Pike County Landfill	Pikeville KY	
10-oz Geotextile	19,500 SF	Pike County Landfill	Pikeville KY	
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria OH	
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria OH	
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria OH	
12-mil Raincover	200,000 SF	WM Bethel LF 6A Valley Raincover	Hampton VA	
40-mil HDPE	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton VA	
Wind Defender	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton VA	
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville PA	
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville PA	
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville PA	
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville VA	
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville VA	
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville VA	
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville VA	
60-mil HDPE Textured	385,070 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda VA	

GCL	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
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8-mil Raincover	330,000 SF	WM Mid Penn LF Cell 15 & Raincover	Saluda	VA
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# Mendieta, Ivan

Material	Quantity	Project	Location	Completion Date
10-oz Geotextile	20,159 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
45-mil RPP	20,320 SF	Spotsylvania Co FMC Lagoon	Fredericksburg VA	5 /19/2019
GCL	62,000 SF	Atlantic Lagoon 3 Modifications	Waverly VA	
40-mil LLDPE	36,500 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall MD	
HydroTurf	16,350 SF	Honeygo Run - Phase 3 WD Removal and Cell 7B	Perry Hall MD	
GCL	19,500 SF	Pike County Landfill	Pikeville KY	
10-oz Geotextile	19,500 SF	Pike County Landfill	Pikeville KY	
80-mil Geomembrane	19,500 SF	Pike County Landfill	Pikeville KY	
Geocomposite	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria OH	
Wind Defender	789,156 SF	Sunny Farms Cell 8 Cap	Fostoria OH	
40-mil LLDPE	978,200 SF	Sunny Farms Cell 8 Cap	Fostoria OH	
12-mil Raincover	200,000 SF	WM Bethel LF 6A Valley Raincover	Hampton VA	
40-mil HDPE	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton VA	
Wind Defender	314,700 SF	WM Bethel LF Interim Cap Install Only	Hampton VA	
Raincover	827,640 SF	WM Fairless LF Temp Cap	Morrisville PA	
40-mil HDPE Textured	80,150 SF	WM Fairless LF Temp Cap	Morrisville PA	
8-oz Geotextile	80,150 SF	WM Fairless LF Temp Cap	Morrisville PA	
Raincover	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville VA	
60-mil HDPE Textured	2,796,750 SF	WM Maplewood Phase 23/26	Jetersville VA	
Geonet	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville VA	
GCL	1,398,375 SF	WM Maplewood Phase 23/26	Jetersville VA	

**APPENDIX B.4**

## Specifications/Clarifications



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING

**EGLE**

LIESL EICHLER CLARK  
DIRECTOR

May 13, 2019

Ms. Michelle Marion  
Consumers Energy  
1945 West Parnall Road  
Jackson, Michigan 49201

Dear Ms. Marion:

**SUBJECT:** Response to JR Whiting Plant Type III Land Disposal Area Closure  
Correspondence, Waste Data System Number 397664

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) formerly the Department of Environmental Quality (MDEQ), Materials Management Division (MMD), formerly the Waste Management and Radiological Protection Division, has received an April 29, 2019, letter subjected "J R WHITING PLANT TYPE III LAND DISPOSAL AREA FACILITY 397664, OPERATING LICENSE NO. 9403 PONDS 1 AND 2 CLOSURE PLAN CLARIFICATION," and a May 2, 2019, letter subjected "J R WHITING PLANT TYPE III LAND DISPOSAL AREA FACILITY 397664, OPERATING LICENSE NO. 9403 APPROVAL OF ASH AND TYPE III WASTES." EGLE appreciates Consumers Energy's (Consumers) cooperation and correspondence related to closure plan clarification and approval. Based on our review of the requests, MMD has the following comments:

- Upon the review of the April 29, 2019, letter, MMD Jackson District staff agrees that the application of textured 40 mil HDPE geomembrane will provide increased stability for the final cover system of the JR Whiting Pond 1 & 2 Closure Project and approves the request to use the textured 40 mil HDPE geomembrane in place of the smooth textured 40 mil HDPE geomembrane.
- The May 2, 2019, letter proposes the use of approximately 5000 cubic yards of sediment from retention ponds located at the JR Whiting plant as fill to facilitate the closure of Ponds 1 and 2. Solid Waste Disposal Area Operating License Number 9403, Paragraph 20, Special Conditions, states: "Per R 299.4309(3), the licensee may only accept coal fly ash and coal bottom ash from the JR Whiting plant and other Type III wastes as approved by the MDEQ Director." MMD staff agrees with the characterization of the retaining pond residuals as Type III waste. Therefore, the use of this material as "extra onsite material" in order to reach final grade according to the approved closure plan is approved.

If you have any questions, please contact Ms. Aubrey Proctor at [Proctora4@michigan.gov](mailto:Proctora4@michigan.gov); 517-740-5500 or EGLE, State Office Building, 301 East Louis Glick Highway, Jackson, Michigan 49201; or you may contact me at the number listed below.

Sincerely,



Rhonda S. Oyer, Manager  
Solid Waste Section  
Materials Management Division  
517-897-1395

cc: Mr. Frank Rand, Consumers Energy  
Mr. Larry Bean, EGLE  
Ms. Aubrey Proctor, EGLE

## Piaskowski, Jeff

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**From:** Michelle A. Marion <MICHELLE.MARION@cmsenergy.com>  
**Sent:** Tuesday, June 18, 2019 8:49 AM  
**To:** Rachel Thompson; Thomas Shields  
**Cc:** Piaskowski, Jeff; Wachholz, Matt; Andrew K. Baird; George L. Mckenzie II  
**Subject:** FW: Consumers Energy JRW Pond 1&2 Clarification of Vegetation Utilized to Strengthen Bridging Layer

### EXTERNAL EMAIL

We are approved to place the vegetation in Pond 1&2 (in lieu of disposing in a Type II municipal waste landfill) in the manner recommended by Golder (see initial e-mail to EGLE). Place the vegetation that was removed in the areas we removed it from to strengthen the bridging layer.

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**From:** Michelle A. Marion  
**Sent:** Tuesday, June 18, 2019 9:43 AM  
**To:** 'Proctor, Aubrey (EGLE)'  
**Cc:** BRADLEY T. RUNKEL; Gerald F. Rand Jr.  
**Subject:** RE: Consumers Energy JRW Pond 1&2 Clarification of Vegetation Utilized to Strengthen Bridging Layer

Hello Aubrey,

Thank you for your quick reply. We plan to return the vegetation that was removed back into the area where it was removed. (Sorry if that wasn't clear.)

I have been planning to visit the site in the next few weeks and can do that this week yet, Monday – Wednesday next week (week of the 24<sup>th</sup>), or any day the week of the July 1. Let me know if there is any particular day that works better for you and we will plan to meet on-site.

Thank you,

### Michelle Marion

Senior Engineer, Environmental Services

O: 517-788-5824 F: 517-788-2329

WORKING TO DELIVER THE ENERGY YOU NEED, WHENEVER YOU NEED IT.

THAT'S OUR PROMISE TO MICHIGAN!

 Please consider the environment before printing this email



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**From:** Proctor, Aubrey (EGLE) [mailto:ProctorA4@michigan.gov]  
**Sent:** Tuesday, June 18, 2019 8:43 AM  
**To:** Michelle A. Marion

**Cc:** BRADLEY T. RUNKEL; Gerald F. Rand Jr.

**Subject:** RE: Consumers Energy JRW Pond 1&2 Clarification of Vegetation Utilized to Strengthen Bridging Layer

**Email sent from outside of CMS/CE. Use caution before clicking links/attachments.**

Hello Michelle,

Thank you for contacting me on this topic! I believe the utilization of the vegetation and root mass will be acceptable as an effort to help improve subgrade stability. Is there a plan to reinforce the area in Pond 1 where the vegetation was already removed? I am thinking of visiting the site to see the overall progress of the closure, do you plan on being on site any time in the next few weeks?

Thank you,

**Aubrey Proctor**

**Environmental Engineer**

Michigan Department of Environment, Great Lakes, and Energy

Materials Management Division

Jackson District Office

(517)740-5500

---

**From:** Michelle A. Marion <MICHELLE.MARION@cmsenergy.com>

**Sent:** Monday, June 17, 2019 4:48 PM

**To:** Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>

**Cc:** BRADLEY T. RUNKEL <BRADLEY.RUNKEL@cmsenergy.com>; Gerald F. Rand Jr. <frank.randjr@cmsenergy.com>

**Subject:** Consumers Energy JRW Pond 1&2 Clarification of Vegetation Utilized to Strengthen Bridging Layer

Dear Ms. Proctor,

I am writing today to discuss a clarification with the Consumers Energy JR Whiting Ponds 1&2 Closure Plan (Closure Plan). We found that since the Closure Plan was written small shrubs (< 2 inch diameter willows) have grown successfully on the ash and established a root mass that has improved stability within the ponds. We cleared and grubbed a small area within Pond 1, removing the root mass and vegetation which consequently created a softer subgrade that is more difficult to bridge.

The design engineer from Golder Associates, Inc. performed a site visit and recommended that we utilize the vegetation and its established root mass as reinforcement to the bridging layer, effectively supporting the bridging layer in a similar capacity to the woven geotextile identified in the Closure Plan. The vegetation will be tracked in place with a dozer in a single layer while maintaining the root mass as the foundation of the bridging layer. Bottom ash will be placed over the vegetation and root mass to create a bridging layer in accordance with the Closure Plan. The root mass and vegetation will serve as a corduroy system which has been used successfully in transportation projects where anaerobic conditions and soft subgrades require stabilization and bridging to support proposed loads. Utilizing the vegetation and root mass will improve the strength of the bridging layer while preventing unneeded disposal in a Type II facility. We anticipate anaerobic conditions will exist where the vegetation will be placed as part of the bridging layer and, as a result, little to no degradation of these materials is expected. Additionally, if degradation would occur, the relatively thin layer of vegetation (anticipated to be less than 2-inches-thick) could not affect the positive drainage given the minimum 2 percent closure design slopes presented in the Closure Plan.

In section 3.2 of the Closure Plan, Golder Associates, Inc. identified that the strength of the graded CCR may need to be improved by utilizing stronger materials and gave examples of utilizing sand or riprap. The vegetation and established root mass are considered by the design engineer as "stronger materials" already identified and approved in the Closure Plan. As a result, we plan to utilize the vegetation and established root mass to improve the strength of the bridging layer until it passes the proof roll in accordance with the CQA Plan. If the Department of Environment, Great Lakes, and



Energy (EGLE) disagrees or would like Consumers Energy to prepare a formal request, Consumers Energy is happy to comply with EGLE's request/recommendation. We plan to start utilizing these materials this week, so please let me know if there are any concerns at all with moving forward and I will request that the project team wait until EGLE's concerns have been addressed. You can reach me at 517-788-5824 or [michelle.marion@cmsenergy.com](mailto:michelle.marion@cmsenergy.com).

Sincerely,

**Michelle Marion**

Senior Engineer, Environmental Services

O: 517-788-5824 F: 517-788-2329

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**From:** Proctor, Aubrey (EGLE) <[ProctorA4@michigan.gov](mailto:ProctorA4@michigan.gov)>  
**Sent:** Monday, August 26, 2019 12:27 PM  
**To:** Michelle A. Marion <[MICHELLE.MARION@cmsenergy.com](mailto:MICHELLE.MARION@cmsenergy.com)>  
**Cc:** Piaskowski, Jeff <[Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)>; Johnson, Tiffany <[Tiffany\\_Johnson@golder.com](mailto:Tiffany_Johnson@golder.com)>; Rachel Thompson <[Rachel.Thompson@cmsenergy.com](mailto:Rachel.Thompson@cmsenergy.com)>; Thomas Shields <[Thomas.Shields@cmsenergy.com](mailto:Thomas.Shields@cmsenergy.com)>; George L. Mckenzie II <[George.Mckenziell@cmsenergy.com](mailto:George.Mckenziell@cmsenergy.com)>; Hutchinson, David <[David\\_Hutchinson@golder.com](mailto:David_Hutchinson@golder.com)>; Jeffrey Yuchasz <[Jeffrey.Yuchasz@cmsenergy.com](mailto:Jeffrey.Yuchasz@cmsenergy.com)>; Brad Runkel <[BRADLEY.RUNKEL@cmsenergy.com](mailto:BRADLEY.RUNKEL@cmsenergy.com)>  
**Subject:** RE: JR Whiting Ponds 1-2 Closure - Extrusion Welding Destruct Clarification

## EXTERNAL EMAIL

Hi Michelle,

Thanks for the clarification, that sounds good to me!

Thank you,

### **Aubrey Proctor**

#### **Environmental Engineer**

Michigan Department of Environment, Great Lakes, and Energy  
Materials Management Division  
Jackson District Office  
(517)740-5500

---

**From:** Michelle A. Marion <[MICHELLE.MARION@cmsenergy.com](mailto:MICHELLE.MARION@cmsenergy.com)>  
**Sent:** Monday, August 26, 2019 12:16 PM  
**To:** Proctor, Aubrey (EGLE) <[ProctorA4@michigan.gov](mailto:ProctorA4@michigan.gov)>  
**Cc:** Piaskowski, Jeff (<[Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)>) <[Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)>; Johnson, Tiffany <[Tiffany\\_Johnson@golder.com](mailto:Tiffany_Johnson@golder.com)>; Rachel Thompson <[Rachel.Thompson@cmsenergy.com](mailto:Rachel.Thompson@cmsenergy.com)>; Thomas Shields <[Thomas.Shields@cmsenergy.com](mailto:Thomas.Shields@cmsenergy.com)>; George L. Mckenzie II <[George.Mckenziell@cmsenergy.com](mailto:George.Mckenziell@cmsenergy.com)>; Hutchinson, David (<[David\\_Hutchinson@golder.com](mailto:David_Hutchinson@golder.com)>) <[David\\_Hutchinson@golder.com](mailto:David_Hutchinson@golder.com)>; Jeffrey Yuchasz <[Jeffrey.Yuchasz@cmsenergy.com](mailto:Jeffrey.Yuchasz@cmsenergy.com)>; BRADLEY T. RUNKEL <[BRADLEY.RUNKEL@cmsenergy.com](mailto:BRADLEY.RUNKEL@cmsenergy.com)>  
**Subject:** FW: JR Whiting Ponds 1-2 Closure - Extrusion Welding Destruct Clarification

Dear Aubrey,

Golder Associates, Inc. is performing the Construction Quality Assurance work at JR Whiting Pond 1&2 and have noticed that the liner was deployed to limit the amount of patches, tie ins, etc., such that there will not be many repairs and thus not more than a couple extrusion welding destructs so they have asked that I pass on further clarification as follows. Please let me know if you have any questions or concerns about this.

Sincerely,

**Michelle Marion**  
Senior Engineer, Environmental Services

O: 517-788-5824 F: 517-788-2329

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**From:** Piaskowski, Jeff [[mailto:Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)]

**Sent:** Monday, August 26, 2019 10:52 AM

**To:** Michelle A. Marion

**Cc:** Rachel Thompson; Thomas Shields; George L. Mckenzie II; Hutchinson, David; Johnson, Tiffany; Jeffrey Yuchasz

**Subject:** JR Whiting Ponds 1-2 Closure - Extrusion Welding Destruct Clarification

**Email sent from outside of CMS/CE. Use caution before clicking links/attachments.**

Aubrey,

Golder would like to clarify the destructive testing requirements in the approved Construction Quality Assurance Plan (CQA Plan) for the J.R. Whiting Ponds 1 and 2 Closure, dated August 31, 2017. The destructive seam testing program has the following requirements:

*“Destructive testing will be performed on at least one field-seamed sample per day per seaming crew and machine combination. The sampling and testing frequency will be at least one test every 500 linear feet of production seam for fusion and extrusion welded seams. Repairs with less than 10 feet diagonal dimension are not included in the extrusion weld seam total and are considered minor.”*

We would like to clarify that extrusion destructive samples will only be collected when an extrusion repair is greater than 10-feet in diagonal dimension or if a production seam is prepared using an extrusion weld technique. We anticipate that mostly minor repairs will be required for this project given the geometry of the site and length of the 40-mil HDPE geomembrane rolls such that there be a limited amount of repairs (extrusion welds) that would require destructive testing. Extrusion welding will still be required to pass trial weld seaming requirements every day that an extrusion repair is performed.

Thank you,

**Jeff Piaskowski, PE**

Senior Project Geotechnical Engineer

2247 Fox Heights Lane, Suite A, Green Bay, Wisconsin, USA 54304

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## Piaskowski, Jeff

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**From:** Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>  
**Sent:** Thursday, September 05, 2019 8:11 AM  
**To:** Michelle A. Marion  
**Cc:** Rachel Thompson; Thomas Shields; Jeffrey Yuchasz; Hutchinson, David; Johnson, Tiffany; Scott Rogers; Piaskowski, Jeff  
**Subject:** RE: JR Whiting Ponds 1-2 Closure MDOT 6AA Clarification

### EXTERNAL EMAIL

Hello Michelle,

I apologize for the delayed response, I've been out in the field all week! Thank you for clarifying the use of the MDOT 6AA, that sounds acceptable to me.

Thanks,

**Aubrey Proctor**  
**Environmental Engineer**  
Michigan Department of Environment, Great Lakes, and Energy  
Materials Management Division  
Jackson District Office  
(517)740-5500

---

**From:** Michelle A. Marion <MICHELLE.MARION@cmsenergy.com>  
**Sent:** Wednesday, September 4, 2019 11:08 AM  
**To:** Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>  
**Cc:** Rachel Thompson <Rachel.Thompson@cmsenergy.com>; Thomas Shields <Thomas.Shields@cmsenergy.com>; Jeffrey Yuchasz <Jeffrey.Yuchasz@cmsenergy.com>; Hutchinson, David <David\_Hutchinson@golder.com>; Johnson, Tiffany <Tiffany\_Johnson@golder.com>; Scott Rogers <scott.rogers@ryancentral.com>; Piaskowski, Jeff (Jeff\_Piaskowski@golder.com) <Jeff\_Piaskowski@golder.com>  
**Subject:** RE: JR Whiting Ponds 1-2 Closure MDOT 6AA Clarification

Aubrey,

The project team had a call this morning and I wanted to make sure that it is clear that we are only using the MDOT 6AA spec for the gradation requirements because we are using it for drainage material. We are not concerned about the abrasion, etc. requirements that would be applicable if we using it for concrete mix design or other uses. Please let us know if you have any questions or concerns.

Sincerely,

Michelle Marion  
517-788-5824 (office)  
517-937-9407 (mobile)

---

**From:** Michelle A. Marion  
**Sent:** Friday, August 30, 2019 10:46 AM  
**To:** Proctor, Aubrey (DEQ) ([ProctorA4@michigan.gov](mailto:ProctorA4@michigan.gov))

**Cc:** Rachel Thompson; Thomas Shields; Jeffrey Yuchasz; Hutchinson, David; Johnson, Tiffany; Scott Rogers; Piaskowski, Jeff ([Jeff.Piaskowski@golder.com](mailto:Jeff.Piaskowski@golder.com))

**Subject:** RE: JR Whiting Ponds 1-2 Closure MDOT 6AA Clarification

Aubrey,

Please see Golder's e-mail to clarify the stone around the above cap drainage piping. Please let us know if you have any questions or concerns.

Sincerely,

Michelle Marion

517-937-9407

---

**From:** Piaskowski, Jeff [<mailto:Jeff.Piaskowski@golder.com>]

**Sent:** Friday, August 30, 2019 8:58 AM

**To:** Michelle A. Marion

**Cc:** Rachel Thompson; Thomas Shields; Jeffrey Yuchasz; Hutchinson, David; Johnson, Tiffany; Scott Rogers

**Subject:** JR Whiting Ponds 1-2 Closure MDOT 6AA Clarification

**Email sent from outside of CMS/CE. Use caution before clicking links/attachments.**

Good morning Michelle, we would like to provide EGLE the email below as a clarification for MDOT 6AA gradation for the above cap drainage material. If you have any questions – please call my cell (920-309-1548) I will be out of the office today.

Take care,

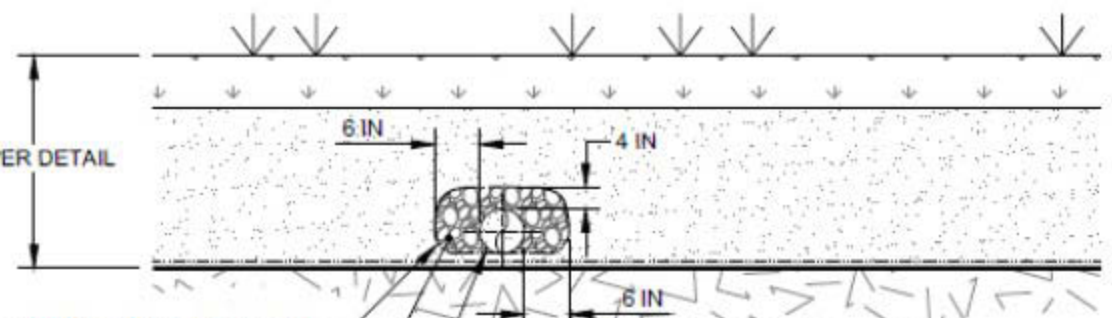
Jeff Piaskowski

Good morning Aubrey,

Golder would like to clarify that the MDOT 6AA stone around the above cap drainage piping (see detail below) was intended to meet the MDOT 6AA gradation only (see MDOT 6AA gradation below). MDOT 6AA is an aggregate intended for concrete mix designs that requires a bit more testing (ie L.A. Abrasion ASTM C 131). Testing in addition to gradation is not necessary for its use as a drainage material; and as a result, we plan to provide gradation testing results to confirm this material will be effective for its above cap drainage purpose at JR Whiting Ponds 1-2. Please contact me if you request additional clarification.

1  
10

COVER DETAIL



GEOTEXTILE 10 OZ/SY NON-WOVEN NEEDLE PUNCHED WRAPPED AROUND AGGREGATE

MDOT 6AA AGGREGATE

4" Ø ADS N12 ST NON-PERFORATED ABOVE-CAP OUTLET PIPE (OR EQUIVALENT)

NOT TO SCALE

1B  
14

ABOVE-CAP PIPING SYSTEM OUTLET DETAIL SECTION A-A'



902.11

Table 902-1 Grading Requirements for Coarse Aggregates, Dense-Graded Aggregates, and Open-Graded Aggregates												
Material Type	Class	Item of Work by Section Number (Sequential)	Sieve Analysis (MTM 109) Total Percent Passing (a)									
			2½ in	2 in	1½ in	1 in	¾ in	½ in	¾ in	No. 4	No. 8	No. 30
Coarse Aggregates	4 AA (b)	602	100	90-100	40-60	—	0-12	—	—	—	—	—
	6 AAA (b)	602	—	—	100	90-100	60-85	30-60	—	0-8	—	—
	6 AA (b)	601, 602, 706, 708, 806	—	—	100	95-100	—	30-60	—	0-8	—	—
	6 A	205, 401, 402, 601, 602, 603, 706, 806	—	—	100	95-100	—	30-60	—	0-8	—	—
	17 A	401, 406, 701, 706, 708	—	—	—	100	90-100	50-75	—	0-8	—	—
	25 A	—	—	—	—	—	100	95-100	60-90	5-30	0-12	—
	26 A	706, 712	—	—	—	—	100	95-100	60-90	5-30	0-12	—
Dense-Graded Aggregates	29 A	—	—	—	—	—	100	90-100	10-30	0-10	—	—
	21 AA	302, 304, 305, 306, 307	—	—	100	85-100	—	50-75	—	—	20-45	—
	21 A	302, 305, 306, 307	—	—	100	85-100	—	50-75	—	—	20-45	—
	22 A	302, 305, 306, 307	—	—	—	100	90-100	—	65-85	—	30-50	—
Open-Graded Aggregates	23 A	306, 307	—	—	—	100	—	—	60-85	—	25-60	—
	4 G (g)	303	—	—	—	—	—	—	—	—	—	—
	34 R	401, 404	—	—	—	—	—	100	90-100	—	0-5	—
	34 G	404	—	—	—	—	—	100	95-100	—	0-5	—

a. Based on dry weights.  
b. Class 6AAA will be used exclusively for all mainline and ramp concrete pavement when the directional commercial ADT is greater than or equal to 100 vehicles per day.  
c. Loss by Washing will not exceed 2.0 percent for material produced entirely by crushing rock, boulders, cobbles, slag, or concrete.  
d. When used for aggregate base courses, surface courses, shoulders and approaches and the material is produced entirely by crushing rock, cobbles, slag, or concrete, the maximum limit for Loss by Washing must not exceed 10 percent.  
e. The limits for Loss by Washing of dense-graded aggregates are significant to the nearest whole percent.  
f. For aggregates produced from sources located in Berrien County, the Loss by Washing must not exceed 8 percent and the sum of Loss by Washing and shale particles must not exceed 10 percent.  
g. Reference contract documents.

746

Thank you,

**Jeff Piaskowski, PE**  
Senior Project Geotechnical Engineer

2247 Fox Heights Lane, Suite A, Green Bay, Wisconsin, USA 54304

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## Piaskowski, Jeff

---

**From:** Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>  
**Sent:** Monday, September 23, 2019 11:24 AM  
**To:** Michelle A. Marion; Piaskowski, Jeff  
**Cc:** Rachel Thompson; Jeffrey Yuchasz; Thomas Shields; Hutchinson, David; Johnson, Tiffany  
**Subject:** RE: EGLE REQUEST TO REVISE CLOSURE DESIGN AND PLAN - JR WHITING PONDS 1-2

### EXTERNAL EMAIL

Hello Michelle and Jeff,

Thank you for the explanation and details. I believe this proposed improvement to the JRW temporary access road is beneficial and do not see any problems switching the subbase material from MDOT 2NS to MDOT Class II at this time.

Thank you again for the update!

**Aubrey Proctor**  
**Environmental Engineer**  
Michigan Department of Environment, Great Lakes, and Energy  
Materials Management Division  
Jackson District Office  
(517)740-5500

---

**From:** Michelle A. Marion <MICHELLE.MARION@cmsenergy.com>  
**Sent:** Monday, September 23, 2019 9:33 AM  
**To:** Piaskowski, Jeff <Jeff\_Piaskowski@golder.com>; Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>  
**Cc:** Rachel Thompson <Rachel.Thompson@cmsenergy.com>; Jeffrey Yuchasz <Jeffrey.Yuchasz@cmsenergy.com>; Thomas Shields <Thomas.Shields@cmsenergy.com>; Hutchinson, David <David\_Hutchinson@golder.com>; Johnson, Tiffany <Tiffany\_Johnson@golder.com>  
**Subject:** RE: EGLE REQUEST TO REVISE CLOSURE DESIGN AND PLAN - JR WHITING PONDS 1-2

Aubrey,

Please see the proposed improvement below to the access road around JR Whiting Ponds 1&2 by Golder Associates (they are certifying the design) and let us know if you have any questions or concerns. As stated in the e-mail, you are welcome to talk with Jeff Piaskowski directly if you need more clarification or detail.

Thank you,

**Michelle Marion**  
**Senior Engineer, Environmental Services**  
O: 517-788-5824 M: 517-937-9407

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**From:** Piaskowski, Jeff <[Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)>  
**Sent:** Friday, September 20, 2019 8:34 AM  
**To:** Michelle A. Marion <[MICHELLE.MARION@cmsenergy.com](mailto:MICHELLE.MARION@cmsenergy.com)>  
**Cc:** Rachel Thompson <[Rachel.Thompson@cmsenergy.com](mailto:Rachel.Thompson@cmsenergy.com)>; Jeffrey Yuchasz <[Jeffrey.Yuchasz@cmsenergy.com](mailto:Jeffrey.Yuchasz@cmsenergy.com)>; Thomas Shields <[Thomas.Shields@cmsenergy.com](mailto:Thomas.Shields@cmsenergy.com)>; Hutchinson, David <[David\\_Hutchinson@golder.com](mailto:David_Hutchinson@golder.com)>; Johnson, Tiffany <[Tiffany\\_Johnson@golder.com](mailto:Tiffany_Johnson@golder.com)>  
**Subject:** EGLE REQUEST TO REVISE CLOSURE DESIGN AND PLAN - JR WHITING PONDS 1-2

**Email sent from outside of CMS/CE. Use caution before clicking links/attachments.**

Good morning Aubrey:

It was brought to our attention that the proposed access road around JRW Ponds 1 & 2 does not currently meet Michigan DOT (MDOT) design specifications for temporary or low traffic roads as the subbase material is specified to be Class 2NS (see detail 3/12 below from closure plan). The MDOT Class 2NS that is currently proposed is defined by Section 902 of the MDOT standard specifications as a material that is intended for use in concrete, mortar, and grout and as a result will not support / distribute the anticipated traffic loads very well. Chapter 12 of the Michigan Road Design Manual covers miscellaneous roads which includes temporary roads in Section 12.04. The MDOT Road Design Manual recommends at least 6-inches of granular subbase below the gravel. Granular subbase is defined in MDOT Section 301 as MDOT Class II. As a result – we are requesting to follow MDOT Road Design manual by replacing all MDOT 2NS with MDOT Class II. The MDOT Class II gradation is below for reference but given that it will be placed over geosynthetics, we propose slightly tighter restrictions by limiting particle sizes over 0.75 inches. Revising the access road design to align with the MDOT Road Design Manual is considered an improvement to the overall closure design by Ms. Tiffany Johnson, P.E. who is the certifying design engineer. This improvement would be applied to the design drawings and the currently approved CQA plan. If you would like anything clarified further or would like to discuss in more detail please give me a call.

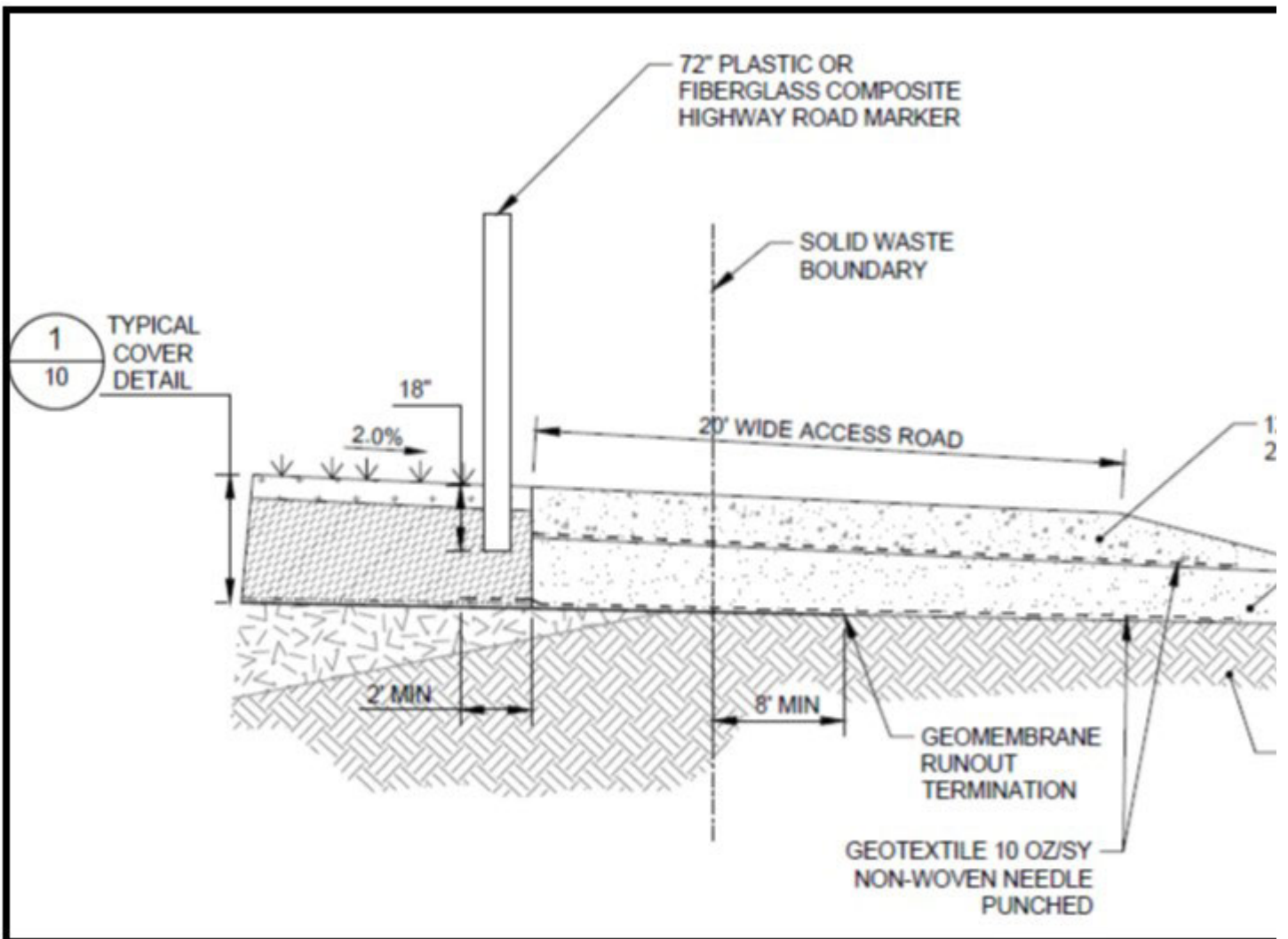
Take care,

Jeff Piaskowski

**Table 902-3  
Grading Requirements for Granular Materials**

Material	Sieve Analysis (MTM 109), Total % Passing (a)								
	6 in	3 in	2 in	1 in	½ in	¾ in	No. 4	No. 30	No. 10
Class I	—	—	100	—	45–85	—	20–85	5–30	—
<b>Class II (c)</b>	<b>—</b>	<b>100</b>	<b>—</b>	<b>60–100</b>	<b>—</b>	<b>—</b>	<b>50–100</b>	<b>—</b>	<b>0–30</b>
Class IIA (c)	—	100	—	60–100	—	—	50–100	—	0–35
Class IIAA	—	100	—	60–100	—	—	50–100	—	0–20
Class III	100	95–100	—	—	—	—	50–100	—	—
Class IIIA	—	—	—	—	—	100	50–100	—	0–30

- a. Test results based on dry weights.
- b. Use test method MTM 108 for Loss by Washing.
- c. Except for use in granular blankets, Class IIA granular material may be substituted for Class II granular material located in the following counties: Arenac, Bay, Genesee, Gladwin, Huron, Lapeer, Macomb, Midlar, Saginaw, Sanilac, Shiawassee, St. Clair, Tuscola, and Wayne counties.



**Jeff Piaskowski, PE**  
Senior Project Geotechnical Engineer

2247 Fox Heights Lane, Suite A, Green Bay, Wisconsin, USA 54304

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## Piaskowski, Jeff

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**From:** Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>  
**Sent:** Thursday, October 03, 2019 12:09 PM  
**To:** Michelle A. Marion  
**Cc:** Rachel Thompson; Thomas Shields; Piaskowski, Jeff; Johnson, Tiffany; Hutchinson, David  
**Subject:** RE: Consumers Energy JRW Pond 1&2 Seed Mix

### EXTERNAL EMAIL

Hi Michelle,

Thank you for the email, I appreciate the update! I was wondering, with all this rain, if the liner crew has made it back to the site?

Thanks,

**Aubrey Proctor**

**Environmental Engineer**

Michigan Department of Environment, Great Lakes, and Energy

Materials Management Division

Jackson District Office

(517)740-5500

---

**From:** Michelle A. Marion <MICHELLE.MARION@cmsenergy.com>  
**Sent:** Wednesday, October 2, 2019 2:48 PM  
**To:** Proctor, Aubrey (EGLE) <ProctorA4@michigan.gov>  
**Cc:** Rachel Thompson <Rachel.Thompson@cmsenergy.com>; Thomas Shields <Thomas.Shields@cmsenergy.com>; Piaskowski, Jeff (Jeff\_Piaskowski@golder.com) <Jeff\_Piaskowski@golder.com>; Johnson, Tiffany <Tiffany\_Johnson@golder.com>; Hutchinson, David (David\_Hutchinson@golder.com) <David\_Hutchinson@golder.com>  
**Subject:** Consumers Energy JRW Pond 1&2 Seed Mix

Hello Aubrey,

Consumers Energy has chosen an alternate seed mix pursuant to Section 4.2.6 in the approved JR Whiting Generating Facility Pond 1 and 2 Closure Plan based on the recommendation of the contractor performing the seeding because it is better suited for the silty/clay soils on the east side of Michigan whereas the mixture proposed in the Closure Plan is better suited for the sandy loam soils on the west side of Michigan. The main difference is the change in seed ratios and the addition of Fults Salt Grass as follows:

Previously Proposed Mixture

<b>MDOT Turf Dry Sand (TDS) Seed Mix</b>	
<b>Seed Variety</b>	<b>Pound/Acre</b>
<b>Kentucky Blue Grass</b>	<b>11</b>
<b>Perennial Rye Grass</b>	<b>55</b>
<b>Hard Fescue</b>	<b>85</b>
<b>Crossing Red Fescue</b>	<b>89</b>
<b>Total:</b>	<b>220</b>

Alternate Mixture Selected

<b>MIDOT Turf Urban Freeway (TUF) Seed Mix</b>	
<b>Seed Variety</b>	<b>Pounds/Acre</b>
Kentucky Blue Grass	22
Perennial Rye Grass	44
Hard Fescue	44
Creeping Red Fescue	88
Falls Sat Grass	77
<b>Total:</b>	<b>220</b>

This selection does not require approval, we are providing it for your awareness, but if you have any questions or concerns, we'll gladly consider them.

Sincerely,

**Michelle Marion**  
 Senior Engineer, Environmental Services  
 O: 517-788-5824 M: 517-937-9407

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## Doering, Halle

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**From:** Piaskowski, Jeff  
**Sent:** Monday, December 16, 2019 10:33 AM  
**To:** Doering, Halle  
**Subject:** FW: Email Clarification to EGLE Ponds 1&2 Closure

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

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**From:** Proctor, Aubrey (EGLE) [mailto:ProctorA4@michigan.gov]  
**Sent:** Thursday, October 24, 2019 8:32 AM  
**To:** Michelle A. Marion <MICHELLE.MARION@cmsenergy.com>  
**Cc:** Piaskowski, Jeff <Jeff\_Piaskowski@golder.com>  
**Subject:** RE: Email Clarification to EGLE Ponds 1&2 Closure

### EXTERNAL EMAIL

Hi Michelle,

I apologize for the delayed response, I've been out of the office. I appreciate the clarification and do not see any issues with the proposals.

Thank you,

**Aubrey Proctor**  
**Environmental Engineer**  
Michigan Department of Environment, Great Lakes, and Energy  
Materials Management Division  
Jackson District Office  
(517)740-5500

---

**From:** Michelle A. Marion <[MICHELLE.MARION@cmsenergy.com](mailto:MICHELLE.MARION@cmsenergy.com)>  
**Sent:** Thursday, October 24, 2019 9:19 AM  
**To:** Proctor, Aubrey (EGLE) <[ProctorA4@michigan.gov](mailto:ProctorA4@michigan.gov)>  
**Cc:** Piaskowski, Jeff ([Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)) <[Jeff\\_Piaskowski@golder.com](mailto:Jeff_Piaskowski@golder.com)>  
**Subject:** FW: Email Clarification to EGLE Ponds 1&2 Closure

Aubrey,

Did you have any questions from Golder's e-mail or would you like me to set up a conference call to discuss?

Thanks,  
Michelle Marion  
517-788-5824

---

**From:** Michelle A. Marion

**Sent:** Thursday, October 17, 2019 3:46 PM

**To:** Piaskowski, Jeff <[Jeff.Piaskowski@golder.com](mailto:Jeff.Piaskowski@golder.com)>; Proctor, Aubrey (EGLE) <[ProctorA4@michigan.gov](mailto:ProctorA4@michigan.gov)>

**Cc:** Johnson, Tiffany <[Tiffany.Johnson@golder.com](mailto:Tiffany.Johnson@golder.com)>; Thomas Shields <[Thomas.Shields@cmsenergy.com](mailto:Thomas.Shields@cmsenergy.com)>; Hutchinson, David <[David.Hutchinson@golder.com](mailto:David.Hutchinson@golder.com)>; Rachel Thompson <[Rachel.Thompson@cmsenergy.com](mailto:Rachel.Thompson@cmsenergy.com)>; Jeffrey Yuchasz <[Jeffrey.Yuchasz@cmsenergy.com](mailto:Jeffrey.Yuchasz@cmsenergy.com)>

**Subject:** Email Clarification to EGLE Ponds 1&2 Closure



Aubrey,

See the email from Golder Associates below and let us know if you have any questions or concerns.

Sincerely,

Michelle Marion  
517-788-5824

---

**From:** Piaskowski, Jeff <[Jeff.Piaskowski@golder.com](mailto:Jeff.Piaskowski@golder.com)>

Good morning Aubrey:

We would like to clarify a couple items in the Pond 1&2 Closure CQA Plan.

- Section 5.4 and Section 5.5 Protective Cover Soil and Topsoil
  - These sections state the licensed land surveyor shall survey the top of final cover on a 100-ft grid system to verify the protective cover thickness.

Golder will use the top of subgrade elevation survey and the top of protective cover survey to document that the protective cover is a minimum of 18-inches thick (if the survey shows the protective cover to be less than 18-inches the contractor will be given the option to regrade or offset the difference with additional topsoil). Golder will use the top of subgrade elevation survey and the top of topsoil elevation survey to document that the thickness of the protective cover and topsoil combined is a minimum of 24-inches thick.

- Section 8.0 Above Cap Drainage Collection Piping System Placement and Documentation
  - The section states that the piping system will be field verified by survey at junctions and every 100 feet along the length of the piping after installation.

Golder will collect survey following installation of the piping system at approximate 100-foot intervals at the top of pipe to document general location of drainage piping. Golder will collect survey at above cap drainage junctions to confirm minimum design grade (one percent) exists on each branch of perforated collection piping that connects to header collection pipes. In addition to the field survey, the CQA technician will field verify installation of the drain tiles.

Please feel free to contact me with questions or if additional clarification is needed.

Thanks and take care,

Jeff Piaskowski

**Jeff Piaskowski, PE**  
*Senior Project Geotechnical Engineer*



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**APPENDIX C**

**Project Daily Reports with  
Photographic Overview**

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
5/7/2019	Tuesday	Tom Dykowski	Erosion control install, dewatering, vegetation removal
5/8/2019	Wednesday	Tom Dykowski	Erosion control install, dewatering
5/9/2019	Thursday	Tom Dykowski	Erosion control install, dewatering, Chem Treatment Building demo
5/10/2019	Friday	Tom Dykowski	Erosion control install, dewatering, Chem Treatment Building demo
5/11/2019	Saturday	n/a	No activity - weekend day
5/12/2019	Sunday	n/a	No activity - weekend day
5/13/2019	Monday	Tom Dykowski	Erosion control inspection, dewatering, Chem Treatment Building demo
5/14/2019	Tuesday	Tom Dykowski	Survey, dewatering, Chem Treatment Building demo
5/15/2019	Wednesday	Tom Dykowski	Survey, dewatering
5/16/2019	Thursday	Tom Dykowski	Survey, dewatering, vegetation removal
5/17/2019	Friday	Tom Dykowski	Dewatering
5/18/2019	Saturday	n/a	Dewatering
5/19/2019	Sunday	n/a	No activity - weekend day
5/20/2019	Monday	Tom Dykowski	Dewatering, vegetation removal
5/21/2019	Tuesday	Tom Dykowski	Dewatering, vegetation removal
5/22/2019	Wednesday	Tom Dykowski	Dewatering, vegetation removal
5/23/2019	Thursday	Tom Dykowski	Dewatering, vegetation removal
5/24/2019	Friday	Tom Dykowski	Dewatering, vegetation removal
5/25/2019	Saturday	n/a	No activity - weekend day
5/26/2019	Sunday	n/a	No activity - weekend day
5/27/2019	Monday	n/a	No activity - Holiday
5/28/2019	Tuesday	Tom Dykowski	Dewatering, vegetation removal
5/29/2019	Wednesday	Tom Dykowski	Dewatering, vegetation removal
5/30/2019	Thursday	Tom Dykowski	Dewatering, vegetation removal
5/31/2019	Friday	Tom Dykowski	Dewatering
6/1/2019	Saturday	Tom Dykowski	Dewatering
6/2/2019	Sunday	n/a	No activity - weekend day
6/3/2019	Monday	David Hutchinson	Dewatering, Chem Pond A excavation
6/4/2019	Tuesday	David Hutchinson	Dewatering, Chem Pond A excavation and fill to Pond 1
6/5/2019	Wednesday	David Hutchinson	Dewatering, vegetation removal
6/6/2019	Thursday	David Hutchinson	Dewatering, vegetation removal
6/7/2019	Friday	David Hutchinson	Dewatering, vegetation removal
6/8/2019	Saturday	David Hutchinson	Dewatering, vegetation removal
6/9/2019	Sunday	n/a	No activity - weekend day
6/10/2019	Monday	David Hutchinson	Dewatering, vegetation removal, Chem Pond A excavation and fill to Pond 1, liner delivery

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
6/11/2019	Tuesday	David Hutchinson	Dewatering, vegetation removal, Chem Pond A and Pond 1 fill, removal of north Chem Pond A manhole
6/12/2019	Wednesday	David Hutchinson	Dewatering, vegetation removal, Chem Pond A and Pond 1 fill, Chem Pond B excavation and pipe removal
6/13/2019	Thursday	David Hutchinson	Dewatering, vegetation removal, Chem Pond A and Pond 1 fill, Chem Pond B excavation and pipe removal, rip rap delivery
6/14/2019	Friday	David Hutchinson	Dewatering, vegetation removal, Chem Pond A and B excavation and Pond 1 fill
6/15/2019	Saturday	David Hutchinson	Dewatering, vegetation removal, Chem Pond B excavation and Pond 1 fill
6/16/2019	Sunday	n/a	No activity - weekend day
6/17/2019	Monday	n/a	No activity - weekend day
6/18/2019	Tuesday	David Hutchinson	Dewatering, vegetation removal, Pond 1 fill, geotextile and riprap placement on shoreline slope
6/19/2019	Wednesday	David Hutchinson	Dewatering, Pond 1 fill, geotextile and riprap placement on shoreline slope
6/20/2019	Thursday	David Hutchinson	Dewatering, Pond 1 fill, geotextile and riprap placement on shoreline slope
6/21/2019	Friday	David Hutchinson	Dewatering, Pond 1 fill, geotextile and riprap placement on shoreline slope
6/22/2019	Saturday	David Hutchinson	Dewatering, Pond 1 fill, geotextile and riprap placement on shoreline slope
6/23/2019	Sunday	n/a	No activity - weekend day
6/24/2019	Monday	David Hutchinson	Dewatering, Pond 1 fill, geotextile and riprap placement on shoreline slope, RCP culvert install, geotextile and riprap delivery
6/25/2019	Tuesday	David Hutchinson	Dewatering, Pond 1 fill, Chem Treatment Ponds A and B structural fill, geotextile and riprap placement on shoreline slope, riprap delivery
6/26/2019	Wednesday	David Hutchinson	Dewatering, Pond 1 fill, Chem Treatment Ponds A and B proof roll, geotextile and riprap placement on shoreline slope, riprap delivery
6/27/2019	Thursday	David Hutchinson	Dewatering, Pond 1 fill, geotextile and riprap placement on shoreline slope, geotextile and riprap delivery
6/28/2019	Friday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope, geotextile and riprap delivery
6/29/2019	Saturday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope
6/30/2019	Sunday	n/a	No activity - weekend day

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
7/1/2019	Monday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope, geomembrane and riprap delivery
7/2/2019	Tuesday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope, geotextile and riprap delivery
7/3/2019	Wednesday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope
7/4/2019	Thursday	David Hutchinson	Geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope
7/5/2019	Friday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope
7/6/2019	Saturday	David Hutchinson	Dewatering, geotextile placement and fill in Pond 1, geotextile and riprap placement on shoreline slope
7/7/2019	Sunday	n/a	No activity - weekend day
7/8/2019	Monday	David Hutchinson	Dewatering, Pond 2 fill, geotextile and riprap placement on shoreline slope, riprap delivery
7/9/2019	Tuesday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, geotextile and riprap placement on shoreline slope, riprap delivery
7/10/2019	Wednesday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, geotextile and riprap placement on shoreline slope, riprap delivery
7/11/2019	Thursday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, geotextile and riprap placement on shoreline slope, riprap delivery
7/12/2019	Friday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, geotextile and riprap placement on shoreline slope, riprap delivery
7/13/2019	Saturday	David Hutchinson	Pond 2 geotextile placement and fill, geotextile and riprap placement on shoreline slope, riprap delivery
7/14/2019	Sunday	n/a	No activity - weekend day
7/15/2019	Monday	David Hutchinson	Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery
7/16/2019	Tuesday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill and drain pipe delivery
7/17/2019	Wednesday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, Pond 1 structural fill
7/18/2019	Thursday	David Hutchinson	Pond 2 geotextile placement and fill, Pond 1 structural fill, installed waddles on shoreline slope, structural fill delivery
7/19/2019	Friday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery
7/20/2019	Saturday	David Hutchinson	Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
7/21/2019	Sunday	n/a	No activity - weekend day
7/22/2019	Monday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, Pond 1 structural fill, geotextile and structural fill delivery
7/23/2019	Tuesday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery
7/24/2019	Wednesday	David Hutchinson	Dewatering, Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery
7/25/2019	Thursday	David Hutchinson	Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery
7/26/2019	Friday	David Hutchinson	Pond 2 geotextile placement and fill, Pond 1 structural fill, structural fill delivery
7/27/2019	Saturday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
7/28/2019	Sunday	n/a	No activity - weekend day
7/29/2019	Monday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
7/30/2019	Tuesday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
7/31/2019	Wednesday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
8/1/2019	Thursday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
8/2/2019	Friday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery, removed MW south of Pond 2
8/3/2019	Saturday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery, removed MW south of Pond 2
8/4/2019	Sunday	n/a	No activity - weekend day
8/5/2019	Monday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
8/6/2019	Tuesday	David Hutchinson	Pond 1 structural fill, structural fill delivery
8/7/2019	Wednesday	David Hutchinson	Pond 2 fill, Pond 1 structural fill, structural fill delivery
8/8/2019	Thursday	David Hutchinson	Pond 1 and 2 structural fill, structural fill delivery
8/9/2019	Friday	David Hutchinson	Pond 1 and 2 structural fill, structural fill delivery
8/10/2019	Saturday	David Hutchinson	Pond 1 structural fill, excavated soft area in Pond 2
8/11/2019	Sunday	n/a	No activity - weekend day
8/12/2019	Monday	David Hutchinson	Pond 1 and 2 structural fill, excavated soft area in Pond 2, structural fill delivery
8/13/2019	Tuesday	David Hutchinson	Set-up for geomembrane installation

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
8/14/2019	Wednesday	David Hutchinson	Pond 1 sub-grade grading, proof roll Pond 2 bridging layer
8/15/2019	Thursday	David Hutchinson	Roll liner sub-grade in Pond 1, grade bridging layer in Pond 2, began geomembrane deployment in Pond 1
8/16/2019	Friday	David Hutchinson	Pond 1 and 2 place and grade structural fill, continued geomembrane deployment in Pond 1
8/17/2019	Saturday	David Hutchinson	Roll liner sub-grade in Pond 1, place structural fill in Pond 2, structural fill delivery, continued geomembrane deployment in Pond 1
8/18/2019	Sunday	n/a	No activity - weekend day
8/19/2019	Monday	David Hutchinson	Pump standing water from Pond 2, geotextile deployment in Pond 1
8/20/2019	Tuesday	David Hutchinson	Roll liner sub-grade in Pond 1, place structural fill in Pond 2, structural fill delivery, continued geomembrane deployment in Pond 1
8/21/2019	Wednesday	David Hutchinson	Place structural fill in Pond 2, structural fill delivery, continued geotextile deployment in Pond 1
8/22/2019	Thursday	David Hutchinson	Place structural fill in Pond 2, structural fill delivery, pump standing water from Pond 2
8/23/2019	Friday	David Hutchinson	Place structural fill in Pond 2, structural fill delivery, pump standing water from Pond 2
8/24/2019	Saturday	n/a	No activity - weekend day
8/25/2019	Sunday	n/a	No activity - weekend day
8/26/2019	Monday	David Hutchinson	Place structural fill in Pond 2, structural fill delivery
8/27/2019	Tuesday	n/a	No activity - rain day
8/28/2019	Wednesday	David Hutchinson	Place structural fill and bridging layer in Pond 2, structural fill delivery, pump standing water from Pond 2
8/29/2019	Thursday	David Hutchinson	Place structural fill in Pond 2, structural fill delivery, excavate swale west of Pond 2
8/30/2019	Friday	David Hutchinson	Place structural fill and bridging layer in Pond 2, place protective cover in Pond 1, structural fill delivery
8/31/2019	Saturday	n/a	No activity - weekend day
9/1/2019	Sunday	n/a	No activity - weekend day
9/2/2019	Monday	n/a	No activity - Labor Day Holiday
9/3/2019	Tuesday	David Hutchinson	Place bridging layer in Pond 2, place protective cover in Pond 1, install above-cap drains in Pond 1, protective cover delivery
9/4/2019	Wednesday	David Hutchinson	Pond 1 place protective cover and install above-cap drains, Pond 2 grade liner sub-grade, protective cover delivery
9/5/2019	Thursday	David Hutchinson	Pond 1 place protective cover and install above-cap drains, Pond 2 grade liner sub-grade, protective cover and 6AA delivery

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
9/6/2019	Friday	David Hutchinson	Pond 1 place protective cover, pump standing water from Pond 2, remove perimeter fence from chemical ponds, protective cover delivery
9/7/2019	Saturday	David Hutchinson	Pond 1 place protective cover, pump standing water from Pond 2, remove perimeter fence from chemical ponds, protective cover delivery
9/8/2019	Sunday	n/a	No activity - weekend day
9/9/2019	Monday	David Hutchinson	Pond 1 place protective cover and install above-cap drains, Pond 2 pump standing water, protective cover delivery
9/10/2019	Tuesday	David Hutchinson	Pond 1 place protective cover and install above-cap drains, Pond 2 place structural fill and bridging layer, pump standing water from Pond 2, protective cover and structural fill delivery, demobilize baker tanks
9/11/2019	Wednesday	David Hutchinson	Pond 2 place structural fill and pump standing water, structural fill delivery, demobilize baker tanks
9/12/2019	Thursday	n/a	No activity - rain day
9/13/2019	Friday	n/a	No activity - rain day
9/14/2019	Saturday	n/a	No activity - weekend day
9/15/2019	Sunday	n/a	No activity - weekend day
9/16/2019	Monday	David Hutchinson	Pond 2 place structural fill and bridging layer, Chemical Ponds place structural fill, structural fill delivery, demobilize baker tanks
9/17/2019	Tuesday	David Hutchinson	Pond 2 place structural fill, Chemical Ponds place structural fill, structural fill delivery
9/18/2019	Wednesday	David Hutchinson	Pond 2 place structural fill and bridging layer, Chemical Ponds place structural fill, structural fill delivery
9/19/2019	Thursday	David Hutchinson	Pond 1 place protective cover, Pond 2 place structural fill, structural fill and protective cover delivery
9/20/2019	Friday	David Hutchinson	Pond 1 place protective cover, Pond 2 place structural fill, structural fill and protective cover delivery
9/21/2019	Saturday	n/a	No activity - weekend day
9/22/2019	Sunday	n/a	No activity - weekend day
9/23/2019	Monday	David Hutchinson	Pond 1 place protective cover, Pond 2 place structural fill, structural fill and protective cover delivery
9/24/2019	Tuesday	David Hutchinson	Pond 1 place protective cover, place structural fill outside of Pond 2, Chemical Ponds place topsoil, delivery of structural fill and protective cover and topsoil
9/25/2019	Wednesday	David Hutchinson	Pond 1 place protective cover and install above-cap pipe, Chemical Ponds place topsoil, delivery of protective cover and topsoil
9/26/2019	Thursday	David Hutchinson	Pond 1 place protective cover, Pond 2 roll sub-grade, Chemical Ponds place topsoil, delivery of protective cover and topsoil



## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
9/27/2019	Friday	David Hutchinson	Pond 1 place protective cover, Pond 2 roll sub-grade and deploy geomembrane, Chemical Ponds place topsoil, delivery of protective cover and topsoil
9/28/2019	Saturday	n/a	No activity - weekend day
9/29/2019	Sunday	n/a	No activity - weekend day
9/30/2019	Monday	David Hutchinson	Pond 2 geomembrane repairs
10/1/2019	Tuesday	David Hutchinson	Pond 1 place protective cover, Pond 2 deploy geomembrane/geotextile
10/2/2019	Wednesday	David Hutchinson	Pond 1 place protective cover, Pond 2 roll sub-grade and deploy geomembrane/geotextile
10/3/2019	Thursday	n/a	No activity - rain day
10/4/2019	Friday	David Hutchinson	Pond 1 place protective cover and deploy geomembrane, Pond 2 roll sub-grade and deploy geotextile
10/5/2019	Saturday	David Hutchinson	Pond 2 roll sub-grade and deploy geomembrane
10/6/2019	Sunday	n/a	No activity - weekend day
10/7/2019	Monday	David Hutchinson	Pond 1 place protective cover, Pond 2 place protective cover and deploy geotextile, protective cover delivery
10/8/2019	Tuesday	David Hutchinson	Pond 1 place protective cover, Pond 2 place protective cover and deploy geotextile, protective cover delivery
10/9/2019	Wednesday	David Hutchinson	Pond 1 place protective cover and topsoil, Pond 2 place protective cover and install above-cap drain pipe, protective cover and topsoil delivery
10/10/2019	Thursday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover and install above-cap drain pipe, topsoil delivery
10/11/2019	Friday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, topsoil delivery
10/12/2019	Saturday	n/a	No activity - weekend day
10/13/2019	Sunday	n/a	No activity - weekend day
10/14/2019	Monday	David Hutchinson	Pond 1 place protective cover and topsoil, Pond 2 place protective cover, topsoil and protective cover delivery
10/15/2019	Tuesday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, topsoil and protective cover delivery
10/16/2019	Wednesday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, delivery of topsoil and protective cover and Class II sand
10/17/2019	Thursday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, place Class II sand for access road, delivery of topsoil and protective cover and Class II sand
10/18/2019	Friday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, place Class II sand for access road, delivery of topsoil and protective cover and Class II sand
10/19/2019	Saturday	n/a	No activity - weekend day

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
10/20/2019	Sunday	n/a	No activity - weekend day
10/21/2019	Monday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, place Class II sand for access road, delivery of topsoil and protective cover and Class II sand
10/22/2019	Tuesday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, delivery of topsoil and protective cover
10/23/2019	Wednesday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, place 23A for access road, delivery of - topsoil, protective cover, and 23A
10/24/2019	Thursday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, place 23A and Class II sand for access road, delivery of - topsoil, protective cover, 23A, and Class II sand
10/25/2019	Friday	David Hutchinson	Pond 1 place topsoil, Pond 2 place protective cover, place 23A and Class II sand for access road, delivery of - topsoil, protective cover, 23A, and Class II sand
10/26/2019	Saturday	n/a	No activity - weekend day
10/27/2019	Sunday	n/a	No activity - weekend day
10/28/2019	Monday	n/a	No activity
10/29/2019	Tuesday	David Hutchinson	Pond 1 place topsoil, place 23A for access road, delivery of topsoil and 23A
10/30/2019	Wednesday	n/a	No activity
10/31/2019	Thursday	n/a	No activity
11/1/2019	Friday	n/a	No activity
11/2/2019	Saturday	n/a	No activity
11/3/2019	Sunday	n/a	No activity
11/4/2019	Monday	n/a	No activity
11/5/2019	Tuesday	David Hutchinson	Pond 1 and 2 place topsoil, place Class II sand for access road, delivery of topsoil and Class II sand
11/6/2019	Wednesday	n/a	No activity
11/7/2019	Thursday	n/a	No activity
11/8/2019	Friday	David Hutchinson	Pond 1 and 2 place topsoil, place 23A for access road, delivery of topsoil and 23A
11/9/2019	Saturday	n/a	No activity - weekend day
11/10/2019	Sunday	n/a	No activity - weekend day
11/11/2019	Monday	n/a	No activity
11/12/2019	Tuesday	n/a	No activity
11/13/2019	Wednesday	David Hutchinson	Pond 1 and 2 place topsoil
11/14/2019	Thursday	David Hutchinson	Pond 1 and 2 place topsoil
11/15/2019	Friday	n/a	No activity
11/16/2019	Saturday	David Hutchinson	Pond 2 place topsoil, delivery and placement of 21AA for access ramp
11/17/2019	Sunday	n/a	No activity - weekend day

## Ponds 1 and 2 - 2019 Construction Summary

DATE	DAY OF WEEK	FIELD CQA TECHNICIAN	Daily Activity
11/18/2019	Monday	n/a	No activity
11/19/2019	Tuesday	David Hutchinson	Pond 1 seed and fertilize topsoil, Pond 2 place topsoil, placed asphalt for access ramp, install fence posts for perimeter fence
11/20/2019	Wednesday	n/a	No activity
11/21/2019	Thursday	David Hutchinson	Pond 2 seed/mulch and fertilize topsoil, place topsoil in Chemical Ponds and along access road, place 23AA access road shoulders, install fence posts for perimeter fence
11/22/2019	Friday	n/a	No activity
11/23/2019	Saturday	n/a	No activity
11/24/2019	Sunday	n/a	No activity
11/25/2019	Monday	n/a	No activity
11/26/2019	Tuesday	n/a	No activity
11/27/2019	Wednesday	David Hutchinson	General clean-up of construction area, install perimeter fence
<b><i>PONDS 1 AND 2 CONSTRUCTION SUBSTANTIALLY COMPLETED</i></b>			

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/7/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0700/1630
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Homrich Kilanski Excavating	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct) Tom (Homrich) Dave (Kilanski)	

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Overcast	<b>Temperature:</b> 45
<b>Weather (PM):</b> Overcast	<b>Temperature:</b> 47
<b>Precipitation:</b> Light rain @ 16:30	<b>Wind:</b> NE 15-20 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 1 Laborer</p> <p>Ryan Central staked out remaining silt fence location on the east side for NERC.</p> <p><b>ProAct</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 7:00 to startup dewatering system. Within an hour of startup, system was pumping at a rate of approximately 575 gpm through the energy dissipator and into discharge channel. Turbidity being checked on an hourly basis. Certified operator onsite for part of the day.</p> <p><b>Homrich</b> – 1 Foreman and 3 Laborers</p> <p>Completed the abatement of Chemical Treatment Building an asbestos inspection was performed by Homrich personnel prior to mobilizing off site.</p> <p><b>Kilanski Excavating</b> – 2 operators</p> <p>Kilanski removing trees and branches from the east slope near Lake Erie including stumps or vegetation for the northerly +/-500'. Stumps and brush stockpiled on berm between Pond 1 and the east slope.</p> <p><b>NERC</b> – 1 Foreman - 4 Laborers</p> <p>NERC installed approximately 510' of double row, and 100' of single row silt fence.</p>

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

Ryan staked out silt fence location on the east side near Lake Erie.

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

Ryan approached Golder regarding the location of the silt fence in relation to the existing water level of Lake Erie. The remaining +/-700' of double rowed silt fence that has to be installed was surveyed and found to be located in the lake. It was determined to complete the +/-500' of double rowed silt fence by sweeping westerly to shore to provide erosion protection of the disturbed slope until a determination can be made to resolve the location of the remaining silt fence.

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

A meeting was held with Jeff Yuchasz, John Johnson, Jeff Piaskowski (via phone) and myself. John mentioned that Kilanski Excavating will complete the chipping of material cleared from the slope tomorrow and with no determination of the location of the remaining silt would be mobilizing offsite, requiring a second mobilization back to the site once silt fence issue is resolved. The current water level is Lake Erie will make the installation of the remaining double rowed silt fence very difficult. Conditions will be reevaluated tomorrow.

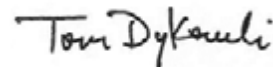
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **PHOTOGRAPHS**

NERC installing double row of silt fence on east side.



Silt fence diverted into slope to protect disturbed area from erosion.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PROJECT OVERVIEW

<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/8/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0700/1630	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct)	

### SITE CONDITIONS

<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 45
<b>Weather (PM):</b> Mostly Cloudy	<b>Temperature:</b> 50
<b>Precipitation:</b> None	<b>Wind:</b> NE 15-20 mph, recorded gust of 38 mph

### EQUIPMENT ON SITE

1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

### SUMMARY OF CONSTRUCTION

#### Work performed while Golder was onsite:

**Ryan Central** -1 Foreman, 1 operator, 1 Laborer

Ryan Central dealing with silt fence issue and working on intake piping for discharge pump.

**ProAct** – 1 Foreman and 1 Laborer

ProAct onsite at 7:00 to startup dewatering system. Within an hour of startup, system was pumping at a rate of approximately 575 gpm through the energy dissipator and into discharge channel. Turbidity being checked on an hourly basis. Certified operator onsite for part of the day.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress. Purchased a job box to store Troxler equipment while onsite. Box has been placed in the Ryan construction trailer.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

None

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

At 8 am approximately 100' of silt fence had been damaged due to high water, I called Jeff Piaskowski who contacted our wetland specialist. A decision was made to remove the installed silt fence near the lake as to not have it float away. Ryan removed the silt fence that was visible with an excavator and placed on the dike. CE to notify issuer of the SESC permit of the installation attempt and the damage caused by the high water and that the silt fence was removed from service on Golder's recommendation.

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

Discussed the silt fence issue with John Johnson and Jeff Yuchasz and relayed to them Golder's recommendation. Discussed borrow source sampling with Scott Rogers and Jeff Yuchasz, Ryan requesting a review and approval of a sample obtained in March from the same source for conditional use until Golder can obtain samples for testing in Golder's Lansing Lab.

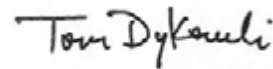
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:





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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **PHOTOGRAPHS**

Damaged observed to silt fence when arrived onsite.



Damage to silt fence prior to recommendation from Golder for contractor to remove.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/9/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0700/1630
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Homrich	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct) Tom (Homrich)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Overcast	<b>Temperature:</b> 55
<b>Weather (PM):</b> Overcast	<b>Temperature:</b> 72
<b>Precipitation:</b> rain @ 13:00, near 1"	<b>Wind:</b> S 5-10 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 1 Laborer, 1 Operator</p> <p>Ryan Central hooked up water connection at their pump near discharge channel for filling up their water truck, marked out (3) locations on the beach where excavation for the key way for the rip rap will occur, +/- 3' cuts would put the geotextile elevation approximately 1' below Lake Erie level. Ryan also has system pumping clean water from discharge channel via HDPE piping to Lake Erie. (system was started at 17:30 yesterday)</p> <p><b>ProAct</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 7:00 to startup dewatering system. Within an hour of startup, system was pumping at a rate of approximately 575 gpm through the energy dissipator and into discharge channel. Turbidity being checked on an hourly basis. Certified operator onsite for part of the day. At 15:54 system was pumping at 586 gpm and had a totalizer reading of 1,379,358 gallons.</p> <p><b>Homrich</b> – 1 Foreman and 3 Laborers</p> <p>Began demolition of the Chemical Treatment Building at 9:00, dust control was accomplished by water hose, wetting demolished materials as necessary. The building was down by 11:15 with the first haul truck to the landfill by 10:40. Only one haul truck being used today.</p>

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

None

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

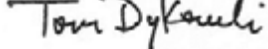
Jeff Yuchasz contacted the SESC permit issuer to describe erosion control measures that were implemented and failed near the east dike. The county was reaching out to colleagues to see if similar conditions have been experienced and for future measures that could be deployed to move forward with work on the disturbed slope. A conference call was scheduled by Rachel Thompson to discuss Shoreline Protection Options for May 10, 2019 at 10:00 am.

### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature: 

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **PHOTOGRAPHS**

Homrich performing the demolition of the Chemical Treatment Building.



Homrich performing the demolition of the Chemical Treatment Building with dust control.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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System setup to pump clean water from the discharge channel via HDPE piping to Lake Erie.



System setup to pump from East Chemical Treatment Pond 2 to Pond 2 through manhole.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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System setup to pump from East Chemical Treatment Pond 1 to East Chemical Treatment Pond 2.



View of Pond 2 after 4 days of dewatering (approximately 1,379,957 gallons).



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PROJECT OVERVIEW

<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/10/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0700/1615	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Homrich	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct) Tom (Homrich)	

### SITE CONDITIONS

<b>Weather (AM):</b> cloudy	<b>Temperature:</b> 45
<b>Weather (PM):</b> cloudy	<b>Temperature:</b> 54
<b>Precipitation:</b> rain, early am, 0.50"	<b>Wind:</b> NW 5-10 mph

### EQUIPMENT ON SITE

1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

### SUMMARY OF CONSTRUCTION

#### Work performed while Golder was onsite:

**Ryan Central** -1 Foreman, 1 Laborer, 1 operator

Ryan Central completed water tower hookup near discharge channel and installed straw wattle (SiltSoxx) 8" x 200' lengths along the east dike approximately 500' for erosion control of disturbed slope.

**ProAct** – 1 Foreman and 1 Laborer

ProAct onsite at 7:00 to startup dewatering system. Within an hour of startup, system was pumping at a rate of approximately 590 gpm through the energy dissipator and into discharge channel. Turbidity being checked on an hourly basis. Certified operator onsite for part of the day. At 15:40 system running at 592 gpm and had a totalizer reading of 1,638,411 gallons.

**Homrich** – 1 Foreman and 3 Laborers

Continued the demolition of the Chemical Treatment Building with (2) haul trucks hauling to Woodland Meadows landfill. The concrete slab is yet to be removed as well as metal that was separated from the demo.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress. Ryan and ProAct plan on working 8 hours on Saturday with dewatering activities. I discussed with Jeff Yuchasz that Golder will not be onsite.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

None

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

A 10:00 am conference call was held to discuss shoreline protection options moving forward. The Lake Erie high water has created some issues with soil erosion control and possibly the ability to construct parts of the proposed east dike riprap as per the construction details. Several options were discussed as well as input from Monroe County SESC representative. Rachel Thompson distributed minutes from the meeting outlining tasks that will be completed by Ryan and Golder prior to next Wednesday's meeting.

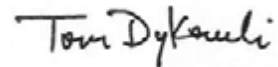
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:





**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Homrich performing demolition on the Chemical Treatment Building.



Homrich performing demolition on the Chemical Treatment Building.



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Ryan installing 8" straw wattle on the east dike.



Ryan installing 8" straw wattle on the east dike.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PROJECT OVERVIEW

<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/13/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0730/1700	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Homrich	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct) Jim (Homrich)	

### SITE CONDITIONS

<b>Weather (AM):</b> overcast	<b>Temperature:</b> 45
<b>Weather (PM):</b> cloudy	<b>Temperature:</b> 51
<b>Precipitation:</b> rain, early am until 10:00	<b>Wind:</b> NW 0-5 mph

### EQUIPMENT ON SITE

1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

### SUMMARY OF CONSTRUCTION

#### Work performed while Golder was onsite:

#### Ryan Central -1 Foreman, 1 operator

Ryan Central staging concrete debris for future disposal, performed soil erosion inspection due to the amount of precipitation. Ryan surveyor (Curt) onsite setting control in preparation for schedule Rowe existing conditions survey. Ryan to check on Kilanski availability to return to site.

#### ProAct – 1 Foreman and 1 Laborer

ProAct onsite at 7:00 to startup dewatering system. System was pumping at a rate of approximately 590 gpm at 8:15 with a totalizer reading of 1,983,119 gallons, through the energy dissipator and into discharge channel. Turbidity being checked on an hourly basis. Certified operator onsite in the afternoon. At 13:20 system running at 592 gpm and had a totalizer reading of 2,138,560 gallons.

#### Homrich – 1 Foreman and 1 Laborer

Continued demolition of the Chemical Treatment Building with only (1) haul truck and (1) load to Woodland Meadows landfill. Material hauled away consisted mostly of concrete slab that had to be broken up and metal that had been separated from other the demo material.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

Ryan surveyed elevation of Pond 2 in the am (581.3), Pond 2 has dropped 0.49' from start of the dewatering on May 6, 2019, (approximately 2 million gallons).

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

A 16:00 conference call was held to discuss the possibility of increasing daily dewatering efforts. Going to proceed as is for this week and revisit total amount at the end of the week.

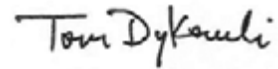
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **PHOTOGRAPHS**

Installation of a double row of 8-inch straw wattles, completed on 05-10-19.



Installation of a double row of 8-inch straw wattles, completed on 05-10-19.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Ryan staging concrete debris on the dike between Ponds 1 and 2 for future disposal.



Ryan staging concrete debris on the dike north of Pond 1.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Homrich performing demo work of the Chemical Treatment Building.



Homrich performing demo work of the Chemical Treatment Building.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PROJECT OVERVIEW

<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/14/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0730/1630	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Homrich	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct) Jim (Homrich)	

### SITE CONDITIONS

<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 43
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 68
<b>Precipitation:</b> None	<b>Wind:</b> W 5-10 mph

### EQUIPMENT ON SITE

1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

### SUMMARY OF CONSTRUCTION

#### Work performed while Golder was onsite:

#### Ryan Central -1 Foreman, 1 Operator, 1 Surveyor

Ryan had their surveyor (Kirk) onsite to set control and perform a drone flight of the project. He met with Golder's subcontractor, Rowe Professional Services (surveyors) to discuss site control. Ryan lowered the culvert between Pond 1 and Pond 2 and installed turbidity curtain near invert of culvert in Pond 2.

#### ProAct – 1 Foreman and 1 Laborer

ProAct onsite at 7:00 to startup dewatering system. System was pumping at a rate of approximately 594 gpm through the energy dissipator and into discharge channel at 7:30. Turbidity being checked on an hourly basis. TSS sample that was obtained yesterday was sent to the lab for analysis. Certified operator onsite in the am. At 15:42 system was pumping at 592 gpm and had a totalizer reading of 2,693,622 gallons.

#### Homrich – 1 Foreman, 1 Operator, 1 Truck driver

Completed demolition of the Chemical Treatment Building at 14:30. Homrich erected temporary fencing around excavation. Ryan contacted Monroe County to perform inspection of excavation.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress. Received email from Tiffany Johnson approving the use of the proctor for density testing of material for structural fill from a sample tested earlier this year from the same source that we will be using for this project. Golder will obtain samples when brought onsite as per CQA Plan criteria.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

(3) people from Rowe Professional Services (subcontractor) onsite to perform existing conditions survey for use in determining plan quantities. Steve and Will shot all control points that Ryan had established as well as control they had set. Rowe also performed a drone survey of the project site.

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

Jeff Yuchasz let me know that Monroe County SESC personnel will be onsite tomorrow.

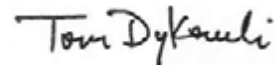
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **PHOTOGRAPHS**

Homrich completing the demolition of the Chemical Treatment Building.



Culvert between Pond 1 and Pond 2 near vertical pipe in Pond 2.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Control set for existing conditions drone survey.



Control set for existing conditions drone survey.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Rowe launching drone to perform existing conditions survey.



Ryan lowering culvert between Pond 1 and Pond 2.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PROJECT OVERVIEW

<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/15/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0720/1630	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct)	

### SITE CONDITIONS

<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 47
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 71
<b>Precipitation:</b> None	<b>Wind:</b> W 5-10 mph

### EQUIPMENT ON SITE

1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1- CAT 321C LCR Excavator; 1-CAT 963 Dozer; 1-CAT Water Truck; 1-CAT 349F Excavator; 1- CAT 327C w/brushhog; McElroy Fusion Welding Equipment

### SUMMARY OF CONSTRUCTION

#### Work performed while Golder was onsite:

#### Ryan Central -1 Foreman, 1 Operator, 1 Surveyor

Ryan surveyor (Kirk) onsite to complete survey work that was started yesterday. Ryan dewatering Chem Pond A into Chem Pond B and then pumping out of Chem Pond B into water truck for disposal into the northwest corner of Pond 1. Staked out location of riprap on the shoreline of the east dike for 13:00 meeting with EGLE and Monroe County SESC personnel.

#### ProAct – 1 Foreman and 1 Laborer

ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of approximately 601 gpm through the energy dissipator and into discharge channel at 08:15. Turbidity being checked on an hourly basis. Certified operator onsite in the am. At 14:15 system was pumping at 597 gpm and had a totalizer reading of 3,127,630 gallons.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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**GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.

**SUMMARY OF SURVEYOR'S ACTIVITIES**

None

**SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

**SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

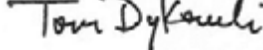
A 10:00 a Construction Update Meeting was held onsite in the construction trailer. Rachel Thompson will distribute meeting minutes. At 13:00 a meeting was held with EGLE (Matt) and Monroe County SESC (Jenny) representatives to discuss shoreline protection erosion control measures. Ryan has obtained a quote for the AquaDam system and for sheet pile along the shoreline of the east dike. Golder will be revisiting shoreline protection design basis.

**SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

**SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature: 

**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 2 water level near the vertical pipe.



Pond 2 water level looking southwest.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Wire flags indicate location of riprap key looking towards the south +/- 700'.



Wire flags indicate location of riprap key looking towards the north +/- 500'.





**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Dewatering of Chemical Pond A to Chemical Pond B.



Dewatering of Chemical Pond B into water truck for discharge into northwest corner of Pond 1.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/16/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0715/1645
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 46
<b>Weather (PM):</b> Mostly Cloudy	<b>Temperature:</b> 73
<b>Precipitation:</b> None	<b>Wind:</b> S 5-10 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator, 1 Laborer
Began removal of vegetation from north side of center dike between Pond 1 and Pond 2 and from the west dike of Pond 1, placing spoils on dike. Performed work in Chemical Pond A to force water into NE corner for dewatering into Chemical Pond B. Water truck was being filled via pump from Chemical Pond B for discharge into the NW corner of Pond 1. Took delivery of (15) concrete jersey barriers.
<b>ProAct</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of approximately 596 gpm through the energy dissipator and into discharge channel at 07:40. Turbidity being checked on an hourly basis. Certified operator onsite in the am. At 14:40 system was pumping at 594 gpm and had a totalizer reading of 3,624,820 gallons.
<u>Summary of Dewatering through 05-15-19:</u>
05/06/19: 281,988 gal.      05/13/19: 399,021 gal.
05/07/19: 387,165 gal.      05/14/19: 484,537 gal.
05/08/19: 405,104 gal.      05/15/19: 486,473 gal.
05/09/19: 404,705 gal.                      3,324,182 gal.
05/10/19: 410,498 gal
05/11/19: 64,691 gal.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

None

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

At 14:00 had a discussion with John Johnson to see what activities are planned for Saturday. Continued dewatering on Pond 1 and Pond 2 by ProAct and the dewatering of the Chemical ponds by Ryan. Vegetation removal from dikes will continue as well.

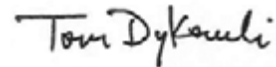
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 2 water level looking northeast.



Pond 2 water level looking southwest.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

Removing vegetation north of center dike between Pond 1 and Pond 2.



Removing vegetation on west dike of Pond 1.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Discharging water from Chemical Pond B via the water truck into northwest corner of Pond 1.



Chemical Pond A work to force water into northeast corner to enable dewatering into Chemical Pond B.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/17/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0715/1445
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Cloudy	<b>Temperature:</b> 54
<b>Weather (PM):</b> Cloudy	<b>Temperature:</b> 61
<b>Precipitation:</b> None	<b>Wind:</b> NE 5-10 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central -1 Foreman</b>
Ryan had one person onsite today as their operator was being trained on a piece of equipment. Limited water truck filling from Chemical Pond B for placement into Pond 1 was being performed.
<b>ProAct – 1 Foreman and 1 Laborer</b>
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of approximately 599 gpm through the energy dissipator and into discharge channel at 07:55. Turbidity being checked on an hourly basis. Certified operator onsite in the am. At 13:21 system was pumping at 599 gpm and had a totalizer reading of 4,058,687 gallons.
<u>Summary of Dewatering through 05-16-19:</u>
05/06/19: 281,988 gal.      05/13/19: 399,021 gal.
05/07/19: 387,165 gal.      05/14/19: 484,537 gal.
05/08/19: 405,104 gal.      05/15/19: 486,473 gal.
05/09/19: 404,705 gal.      05/16/19: 481,499 gal.
05/10/19: 410,498 gal.                      3,805,681 gal.
05/11/19: 64,691 gal.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress. With only scheduled dewatering activities planned for 8-hours on Saturday I made Jeff Yuchasz aware that Golder would not be onsite.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

None

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

At 09:00 had a discussion with John Johnson, he wanted to let me know that grading limits extended westerly past the property line near the forebay. This area appears to be covered with a 50' Divestiture Easement, Golder confirming this.

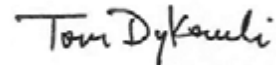
### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:





**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 2 water level looking northeast.



Pond 2 water level looking southwest.



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Chemical Pond A dewatering efforts on 05-16-19 looking northeast



Chemical Pond A dewatering efforts on 06-16-19 looking southwest.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/20/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0720/1445
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Cloudy	<b>Temperature:</b> 52
<b>Weather (PM):</b> Cloudy	<b>Temperature:</b> 61
<b>Precipitation:</b> None	<b>Wind:</b> W 0-10 mph Note: 0.41" of rainfall recorded 05-19-19.

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>																					
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 1 Operator, 1 Laborer</p> <p>Ryan removing vegetation from the north side of the center dike, Pond 1 and the north dike of Pond 1. Also, filling water truck from Chemical Pond B and disposing into the NE corner of Pond 1 until water truck broke down at 0930, repaired at 1230. Ryan began removal of vegetation from the south and west dike of Pond 2 in pm. The dewatering of Chemical Pond A into Chemical Pond B was ongoing in the am.</p> <p><b>ProAct</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 6:00 to startup dewatering system. System was pumping at a reduced rate of approximately 498 gpm through the energy dissipator and into discharge channel at 07:46. Turbidity being checked on an hourly basis. Certified operator onsite in the pm. ProAct reduced flow to 238 gpm at 13:00 due to turbidity readings. At 16:00 system was pumping at 242 gpm and had a totalizer reading of 4,780,536 gallons.</p> <p><u>Summary of Dewatering through 05-18-19:</u></p> <table> <tbody> <tr> <td>05/06/19: 281,988 gal.</td> <td>05/13/19: 399,021 gal.</td> <td>581.79 Pond 2 starting elevation (05/06/2019)</td> </tr> <tr> <td>05/07/19: 387,165 gal.</td> <td>05/14/19: 484,537 gal.</td> <td><u>580.64 Pond 2 elevation (05/18/2019)</u></td> </tr> <tr> <td>05/08/19: 405,104 gal.</td> <td>05/15/19: 486,473 gal.</td> <td>1.15 Pond 2 drop in elevation</td> </tr> <tr> <td>05/09/19: 404,705 gal.</td> <td>05/16/19: 481,499 gal.</td> <td></td> </tr> <tr> <td>05/10/19: 410,498 gal.</td> <td>05/17/19: 484,331 gal.</td> <td></td> </tr> <tr> <td>05/11/19: 64,691 gal.</td> <td>05/18/19: <u>249,566 gal.</u></td> <td></td> </tr> <tr> <td></td> <td>4,539,578 gal.</td> <td></td> </tr> </tbody> </table>	05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	581.79 Pond 2 starting elevation (05/06/2019)	05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	<u>580.64 Pond 2 elevation (05/18/2019)</u>	05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	1.15 Pond 2 drop in elevation	05/09/19: 404,705 gal.	05/16/19: 481,499 gal.		05/10/19: 410,498 gal.	05/17/19: 484,331 gal.		05/11/19: 64,691 gal.	05/18/19: <u>249,566 gal.</u>			4,539,578 gal.	
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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<b>GAI CQA ACTIVITIES AND TEST RESULTS</b>
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Construction:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Golder onsite documenting the construction progress.</li></ul> |
|--|

<b>SUMMARY OF SURVEYOR'S ACTIVITIES</b>
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None
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<b>SUMMARY OF PROBLEMS AND RESOLUTIONS</b>
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None
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<b>SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)</b>
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A meeting with CEC, Ryan and ProAct was held to discuss increased dewatering effort possibilities.
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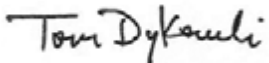
<b>SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES</b>
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None
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<b>SUBMITTED BY GOLDER:</b>
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CQA Field Manager: Tom Dykowski
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Signature:
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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 2 water level looking northeast.



Pond 2 water level looking southwest.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Chemical Pond A dewatering efforts and vegetation removal that took place on 05-18-19 looking south.



Chemical Pond A dewatering efforts and vegetation removal that took place on 05-18-19 looking northeast.



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Pond 2 vegetation removal from center dike looking west.



Pond 1 vegetation removal from south dike looking southeast.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/21/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0720/1445
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Mostly Cloudy	<b>Temperature:</b> 46
<b>Weather (PM):</b> Mostly Cloudy	<b>Temperature:</b> 55
<b>Precipitation:</b> None	<b>Wind:</b> E 0-5 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>																		
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 1 Operator, 1 Laborer</p> <p>Ryan removing vegetation from the dike, east side of the Pond 2 and form Chemical Pond A in the am. Also, filling water truck from Chemical Pond B and disposing into the NE corner of Pond. Ryan began removal of vegetation from the dike at Chemical Pond B at noon. At this time very little can be dewatered out of Chemical Pond A.</p> <p><b>ProAct</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 6:00 to startup dewatering system. System was not started due to a large amount of cenosphere that accumulated between the sump and turbidity curtain overnight. A second turbidity curtain was installed and cenosphere vacuumed off. System was down from 06:00-08:30. System was pumping at a rate of approximately 601 gpm through the energy dissipator and into discharge channel at 09:34. Turbidity being checked on an hourly basis. Certified operator onsite in the am. At 15:50 system was pumping at 601 gpm and had a totalizer reading of 5,127,060 gallons.</p> <p><u>Summary of Dewatering through 05-20-19:</u></p> <table> <tbody> <tr> <td>05/06/19: 281,988 gal.</td> <td>05/13/19: 399,021 gal.</td> <td>05/20/19: <u>328,687 gal.</u></td> </tr> <tr> <td>05/07/19: 387,165 gal.</td> <td>05/14/19: 484,537 gal.</td> <td>4,868,265 gal.</td> </tr> <tr> <td>05/08/19: 405,104 gal.</td> <td>05/15/19: 486,473 gal.</td> <td></td> </tr> <tr> <td>05/09/19: 404,705 gal.</td> <td>05/16/19: 481,499 gal.</td> <td></td> </tr> <tr> <td>05/10/19: 410,498 gal.</td> <td>05/17/19: 484,331 gal.</td> <td></td> </tr> <tr> <td>05/11/19: 64,691 gal.</td> <td>05/18/19: 249,566 gal.</td> <td></td> </tr> </tbody> </table>	05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: <u>328,687 gal.</u>	05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	4,868,265 gal.	05/08/19: 405,104 gal.	05/15/19: 486,473 gal.		05/09/19: 404,705 gal.	05/16/19: 481,499 gal.		05/10/19: 410,498 gal.	05/17/19: 484,331 gal.		05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	
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05/11/19: 64,691 gal.	05/18/19: 249,566 gal.																	



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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<b>GAI CQA ACTIVITIES AND TEST RESULTS</b>
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Construction:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Golder onsite documenting the construction progress.</li></ul> |
|--|

<b>SUMMARY OF SURVEYOR'S ACTIVITIES</b>
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None
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<b>SUMMARY OF PROBLEMS AND RESOLUTIONS</b>
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None
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<b>SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)</b>
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None
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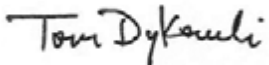
<b>SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES</b>
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None
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<b>SUBMITTED BY GOLDER:</b>
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CQA Field Manager: Tom Dykowski
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Signature:
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

### PHOTOGRAPHS

Installing 2nd turbidity curtain adjacent to existing one due to cenosphere accumulation near sump.



Cenosphere accumulation in Pond 1 near east dike.



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Vegetation removal from east dike of Pond 2 looking south.



Vegetation removal from center dike of Pond 2 looking west.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Chemical Pond B dewatering effort to date looking west.



Vegetation removal from south dike of Chemical Pond B looking west.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/22/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0720/1625
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> overcast, rain	<b>Temperature:</b> 56
<b>Weather (PM):</b> Mostly Cloudy	<b>Temperature:</b> 55
<b>Precipitation:</b> 0.15" till 13:30	<b>Wind:</b> E 5-15 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>																		
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 1 Operator</p> <p>Ryan removing vegetation from the south dike, Pond 2 near discharge channel and completed vegetation removal on the west dike of Pond 1 near the forebay as well as the north dike of Pond 1. Ryan constructed a bridge from the north dike of Pond 1 to the island, approximately 45' in length. Construction included placing concrete slabs flat on bottom of pond and filling voids with adjacent bottom ash material. It was determined that the island was not stable enough at this time to support any heavy equipment for the removal of vegetation.</p> <p><b>ProAct</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of approximately 603 gpm through the energy dissipator and into discharge channel at 08:30. Turbidity being checked on an hourly basis. Certified operator onsite in the am as well as the new operator that will be taking over for Dave Cooper. At 15:55 system was pumping at 601 gpm and had a totalizer reading of 5,625,774 gallons.</p> <p><u>Summary of Dewatering through 05-21-19:</u></p> <table> <tbody> <tr> <td>05/06/19: 281,988 gal.</td> <td>05/13/19: 399,021 gal.</td> <td>05/20/19: 328,687 gal.</td> </tr> <tr> <td>05/07/19: 387,165 gal.</td> <td>05/14/19: 484,537 gal.</td> <td>05/21/19: 402,720 gal.</td> </tr> <tr> <td>05/08/19: 405,104 gal.</td> <td>05/15/19: 486,473 gal.</td> <td>5,270,985 gal.</td> </tr> <tr> <td>05/09/19: 404,705 gal.</td> <td>05/16/19: 481,499 gal.</td> <td></td> </tr> <tr> <td>05/10/19: 410,498 gal.</td> <td>05/17/19: 484,331 gal.</td> <td></td> </tr> <tr> <td>05/11/19: 64,691 gal.</td> <td>05/18/19: 249,566 gal.</td> <td></td> </tr> </tbody> </table>	05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	5,270,985 gal.	05/09/19: 404,705 gal.	05/16/19: 481,499 gal.		05/10/19: 410,498 gal.	05/17/19: 484,331 gal.		05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.																
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.																
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	5,270,985 gal.																
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.																	
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.																	
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.																	

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress. Reviewing the Ryan submitted earthwork plan. Lake Erie water level very high this am, all but one of our riprap key locations were under water.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Discussion with Rachel Thompson regarding the Ryan submitted earthwork plan, I mentioned to her that the pipe abandonment was not contained in the plan as discussed at last weeks Project Status Update Meeting. From John Johnson, Kilanski will not be back onsite until next week to chip tree/branches.

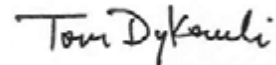
### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: Tom Dykowski

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS

Pond 2 water level, looking northeast.



Pond 2 water level, looking southwest.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Vegetation removal from west dike of Pond 2 near forebay, looking south.



Vegetation removal from south dike of Pond 2 near discharge channel, looking west.





**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Constructing bridge in Pond 1 to the island from the north dike, concrete slab placement flat on bottom, looking southeast.



Constructing bridge in Pond 1 to the island from the north dike, bottom ash placement filling voids, looking southeast.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/23/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0720/1625	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct)	

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> heavy rain till 8:00	<b>Temperature:</b> 62
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 77
<b>Precipitation:</b> 0.15" till 13:30	<b>Wind:</b> W 10-15 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator
Ryan removing vegetation and some stone from dikes of Chemical Pond B and regrading bottom of pond to drain to the east. Ryan placing some bottom ash into pond to mix with residuals. Lowered north invert of culvert connecting Pond 1 and Pond 2.
<b>ProAct</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a lower rate this am due to the way the wind was blowing causing elevated turbidity readings. System was pumping at a rate of approximately 456 gpm through the energy dissipator and into discharge channel at 08:30. Turbidity being checked on an hourly basis. Certified operator onsite in the am. At 15:39 system was pumping at 450 gpm and had a totalizer reading of 6,032,514 gallons.
<u>Summary of Dewatering through 05-22-19:</u>
05/06/19: 281,988 gal.    05/13/19: 399,021 gal.    05/20/19: 328,687 gal.
05/07/19: 387,165 gal.    05/14/19: 484,537 gal.    05/21/19: 402,720 gal.
05/08/19: 405,104 gal.    05/15/19: 486,473 gal.    05/22/19: 487,716 gal. Pond 2 elevation = 580.22
05/09/19: 404,705 gal.    05/16/19: 481,499 gal.    5,758,701 gal.
05/10/19: 410,498 gal.    05/17/19: 484,331 gal.
05/11/19: 64,691 gal.    05/18/19: 249,566 gal.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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**GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress. Made arrangements to be onsite at Aggregate Industries at 7:30 tomorrow morning to look at large riprap and riprap cushion material.

**SUMMARY OF SURVEYOR'S ACTIVITIES**

None

**SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

**SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

None

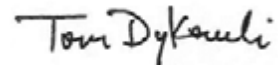
**SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

**SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 2 water level, looking northeast.



Pond 2 water level, looking west.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Chemical Pond B regrading to flow to sump, looking west.



Chemical Pond B bottom ash placement on residuals, looking east.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Chemical Pond A residuals drying out, looking east.



Culvert invert connecting Pond 1 and Pond 2 lowered on the north side, looking southwest.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/24/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b> 0700/1200	
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Justin (ProAct)	

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> cloudy	<b>Temperature:</b> 62
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 75
<b>Precipitation:</b> None	<b>Wind:</b> W 5-10 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator
Ryan removing vegetation from west dike of Pond 1. Also, based on communication from Jeff Yuchasz, Ryan removed culvert connecting Pond 1 and Pond 2 and created dam in that location. 6” pump used to move water from Pond 1 to Pond 2 at which time there will be no discharge into the NPDES outfall. 6” pump will run until Monday morning at 8 am and then Pond 2 will settle for a day and dewatering will resume on Tuesday May 28 <sup>th</sup> .
<b>ProAct</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a lower rate this am due to the way the wind was blowing causing elevated turbidity readings, cenosphere accumulation near sump caused system to be shut down until they could be removed.
<u>Summary of Dewatering through 05-25-19:</u>
05/06/19: 281,988 gal.    05/13/19: 399,021 gal.    05/20/19: 328,687 gal.
05/07/19: 387,165 gal.    05/14/19: 484,537 gal.    05/21/19: 402,720 gal.
05/08/19: 405,104 gal.    05/15/19: 486,473 gal.    05/22/19: 487,716 gal.
05/09/19: 404,705 gal.    05/16/19: 481,499 gal.    05/23/19: 408,516 gal.
05/10/19: 410,498 gal.    05/17/19: 484,331 gal.    05/24/19: 484,613 gal.
05/11/19: 64,691 gal.    05/18/19: 249,566 gal.    05/25/19: <u>No dewatering</u> 6,625,292 gal.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress. A site visit was conducted at Aggregate Industries to look at large riprap D50=30" and D50=2" cushion material. Both products shown to me by Kelly McCrystal met project specifications. Tiffany Johnson, Halle Doering and Brittany Bradley (Golder – Lansing) onsite for annual site inspection as well as review of Pond 1 & 2 Closure Project.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

Cenosphere accumulation near sump in Pond 2 caused a shutdown of dewatering efforts until removal. System down about 1 hour in am.

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

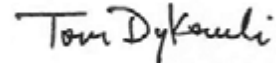
### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: Tom Dykowski

Signature:





DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

**PHOTOGRAPHS**

Pond 2 water level, looking west.



Pond 2 water level, looking east.



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Chemical Pond B placement of residuals on dike to dry, looking west.



Vegetation removal on west dike of Pond 1, looking south.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Cenosphere removal near sump in Pond 2.



Onsite at Aggregate Industries inspection large riprap proposed for shoreline protection.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/28/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	1300/1700
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Justin (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> cloudy	<b>Temperature:</b> 78
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 82
<b>Precipitation:</b> None	<b>Wind:</b> W 10-12 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator
Ryan removing vegetation from south dike of the discharge channel. Dewatering Chemical Ponds A and B and at 16:30 set pump in Pond 1 and pumped to Pond 2. The removal of the culvert connecting Pond 1 and 2 last Friday and the pumping of water from Pond 1 to Pond 2 lowered the water level in Pond 1 significantly leading to the discovery of a vertical overflow pipe in Pond 1.. Almost 1.5" of rain on the weekend brought levels back up some.
<b>ProAct</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a lower rate this am due to cenosphere accumulation near the sump. System was pumping at a rate of 601 gpm at 13:30. At 16:06 system was pumping at 601 gpm and had a totalizer reading of 6,908,288 gals.
<u>Summary of Dewatering through 05-28-19:</u>
05/06/19: 281,988 gal.    05/13/19: 399,021 gal.    05/20/19: 328,687 gal.    05/28/19: <u>386,176 gal.</u>
05/07/19: 387,165 gal.    05/14/19: 484,537 gal.    05/21/19: 402,720 gal.    7,011,468 gal.
05/08/19: 405,104 gal.    05/15/19: 486,473 gal.    05/22/19: 487,716 gal.
05/09/19: 404,705 gal.    05/16/19: 481,499 gal.    05/23/19: 408,516 gal.
05/10/19: 410,498 gal.    05/17/19: 484,331 gal.    05/24/19: 484,613 gal.
05/11/19: 64,691 gal.    05/18/19: 249,566 gal.    05/25/19: <u>No dewatering</u>

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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**GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress. Arrived onsite at 13:00 from driving down from the Gladstone, MI office.

**SUMMARY OF SURVEYOR'S ACTIVITIES**

None

**SUMMARY OF PROBLEMS AND RESOLUTIONS**

Cenosphere accumulation near sump in Pond 2 in the am caused a brief shutdown of dewatering efforts.

**SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

Jeff Yuchasz described the weekend activities regarding the pumping of Pond 1 into Pond 2 and the rain events.

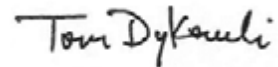
**SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

**SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature:



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 1 water level, looking north after dewatering efforts last weekend.



Pond 1 water level, looking east after dewatering efforts last weekend.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Vegetation removal on south dike of the discharge channel, looking west.



Vegetation removal on south dike of the discharge channel, looking east.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Chemical Pond B dewatering efforts.



Pump system for pumping Pond 1 into Pond 2, looking south.





## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/29/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0715/1720
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Kilanski Excavating	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct) Dave Kilanski

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> cloudy	<b>Temperature:</b> 60
<b>Weather (PM):</b> cloudy	<b>Temperature:</b> 72
<b>Precipitation:</b> 0.41" last night	<b>Wind:</b> NE 5-10 mph

<b>EQUIPMENT ON SITE</b>
1-JD 850K LCP Dozer; 1-CAT 289D Skidsteer; 1-Kubota RTV X112OD (Side by side); 1-CAT Water Truck; 1-CAT 349F Excavator; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator
Ryan loading recyclable material into roll boxes west of Chemical Pond A and then transport off site. Ryan removing vegetation from the east dike of Pond 1 and then started 6-inch pump for conveyance of water from Pond 1 to Pond 2 at 16:50.
<b>Kilanski Excavating</b> – 2 operators
Kilanski Excavating onsite to chip all trees, stumps and branches that were stockpiled from earlier removal from the east dike. Also cleared and grubbed area west of Pond 1 in the 50-foot divestiture easement.
<b>ProAct Services</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of 599 gpm at 09:00. At 16:41 system was pumping at 596 gpm and had a totalizer reading of 7,397,762 gals.
<u>Summary of Dewatering through 05-29-19:</u>
05/06/19: 281,988 gal.    05/13/19: 399,021 gal.    05/20/19: 328,687 gal.    05/28/19: 386,176 gal.
05/07/19: 387,165 gal.    05/14/19: 484,537 gal.    05/21/19: 402,720 gal.    05/29/19: <u>468,094 gal.</u>
05/08/19: 405,104 gal.    05/15/19: 486,473 gal.    05/22/19: 487,716 gal.    7,507,656 gal.
05/09/19: 404,705 gal.    05/16/19: 481,499 gal.    05/23/19: 408,516 gal.
05/10/19: 410,498 gal.    05/17/19: 484,331 gal.    05/24/19: 484,613 gal.
05/11/19: 64,691 gal.    05/18/19: 249,566 gal.    05/25/19: No dewatering

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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<b>GAI CQA ACTIVITIES AND TEST RESULTS</b>
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Construction:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Golder onsite documenting the construction progress.</li></ul> |
|--|

<b>SUMMARY OF SURVEYOR'S ACTIVITIES</b>
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None
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<b>SUMMARY OF PROBLEMS AND RESOLUTIONS</b>
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None
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<b>SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)</b>
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A 10:00 am Project Status meeting was held onsite. Minutes from meeting to be distributed.
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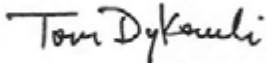
<b>SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES</b>
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None
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<b>SUBMITTED BY GOLDER:</b>
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CQA Field Manager: Tom Dykowski
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Signature:
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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 2 water level, looking east.



Pond 2 water level, looking northeast.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Vegetation removal on east dike of Pond 1, looking north.



Vegetation removal on east dike of Pond 1, looking southeast.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Kilanski Excavating chipping trees, stumps and branches, looking east.



Kilanski Excavation completed chip pile, northeast corner of Pond 1, looking north.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/30/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0720/1630
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> rain	<b>Temperature:</b> 64
<b>Weather (PM):</b> rain	<b>Temperature:</b> 74
<b>Precipitation:</b> 0.84" of rain	<b>Wind:</b> NW 0-5 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; McElroy Fusion Welding Equipment

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator
Ryan removing vegetation from the east dike of Pond 1, placing recyclables in roll box and running 6-inch pump for conveyance of water from Pond 1 to Pond 2. Pump was run several times today.
<b>ProAct Services</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of 616 gpm at 09:55. Turbidity readings were taken every hour, licensed operator onsite in the am. At 16:25 system was pumping at 596 gpm and had a totalizer reading of 7,783,399 gals.
<u>Summary of Dewatering through 05-30-19:</u>
05/06/19: 281,988 gal.    05/13/19: 399,021 gal.    05/20/19: 328,687 gal.    05/28/19: 386,176 gal.
05/07/19: 387,165 gal.    05/14/19: 484,537 gal.    05/21/19: 402,720 gal.    05/29/19: 468,094 gal.
05/08/19: 405,104 gal.    05/15/19: 486,473 gal.    05/22/19: 487,716 gal.    05/30/19: <u>357,569 gal.</u>
05/09/19: 404,705 gal.    05/16/19: 481,499 gal.    05/23/19: 408,516 gal.    7,865,225 gal.
05/10/19: 410,498 gal.    05/17/19: 484,331 gal.    05/24/19: 484,613 gal.
05/11/19: 64,691 gal.    05/18/19: 249,566 gal.    05/25/19: No dewatering

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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<b>GAI CQA ACTIVITIES AND TEST RESULTS</b>
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Construction:
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- |  |
|--|
| <ul style="list-style-type: none"><li>• Golder onsite documenting the construction progress.</li></ul> |
|--|

<b>SUMMARY OF SURVEYOR'S ACTIVITIES</b>
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None
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<b>SUMMARY OF PROBLEMS AND RESOLUTIONS</b>
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None
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<b>SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)</b>
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None
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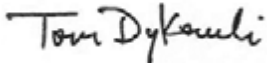
<b>SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES</b>
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None
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<b>SUBMITTED BY GOLDER:</b>
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CQA Field Manager: Tom Dykowski
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Signature:
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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Pond 1 water level in am, looking north.



Pond 1 water level in pm after rain, looking north.





**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Vegetation removal on east dike of Pond 1, looking northeast.



Chemical Pond B, drying out residuals on dike, looking east.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Pond 2 water level, looking southeast.



ProAct continued dewatering efforts, looking northeast across discharge channel.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 5/31/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0720/1710
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> rain	<b>Temperature:</b> 64
<b>Weather (PM):</b> rain	<b>Temperature:</b> 79
<b>Precipitation:</b> None	<b>Wind:</b> SW 0-5 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; McElroy Fusion Welding Equipment; Volvo A45G Haul truck

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 1 Operator
Ryan dewatering Chemical Pond A into Chemical Pond B, then dewatering Chemical Pond B via pump into CAT water truck and placing into Pond 1 in the northeast corner. Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day.
<b>ProAct Services</b> – 1 Foreman and 1 Laborer
ProAct onsite at 6:00 to startup dewatering system. System was in recirculation mode due to elevated turbidity levels. System was pumping at a rate of 297 gpm at 11:00. Turbidity readings were taken every hour, licensed operator onsite in the am. At 15:42 system was pumping at 297 gpm and had a totalizer reading of 7,955,347 gals.
<u>Summary of Dewatering through 05-31-19:</u>
05/06/19: 281,988 gal.    05/13/19: 399,021 gal.    05/20/19: 328,687 gal.    05/27/19: Holiday
05/07/19: 387,165 gal.    05/14/19: 484,537 gal.    05/21/19: 402,720 gal.    05/28/19: 386,176 gal.
05/08/19: 405,104 gal.    05/15/19: 486,473 gal.    05/22/19: 487,716 gal.    05/29/19: 468,094 gal.
05/09/19: 404,705 gal.    05/16/19: 481,499 gal.    05/23/19: 408,516 gal.    05/30/19: 357,569 gal.
05/10/19: 410,498 gal.    05/17/19: 484,331 gal.    05/24/19: 484,613 gal.    05/31/19: <u>161,965 gal.</u>
05/11/19: 64,691 gal.    05/18/19: 249,566 gal.    05/25/19: No dewatering    8,027,190 gal.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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**GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.

**SUMMARY OF SURVEYOR'S ACTIVITIES**

None

**SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

**SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

Had discussion with Jeff P. regarding the Ryan Earthwork plan.

**SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

**SUBMITTED BY GOLDER:**

CQA Field Manager: Tom Dykowski

Signature: *Tom Dykowski*

**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Chemical Pond B, looking west.



Dewatering of Chemical Pond B into Pond 1 via water truck, looking north.



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

Dewatering of Chemical Pond A into Chemical Pond B, looking northwest.



Dewatering Pond 1 into Pond 2 via 6-inch pump, looking south.



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Pond 1 water level, looking south.



Pond 1 water level, looking west.



## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/01/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	Tom Dykowski	<b>Arrival/Departure Time:</b>	0700/0900
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> sunny	<b>Temperature:</b> 66
<b>Weather (PM):</b> sunny	<b>Temperature:</b> 74
<b>Precipitation:</b> None	<b>Wind:</b> SW 0-5 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; McElroy Fusion Welding Equipment; Volvo A45G Haul truck

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 1 Operator																												
Ryan dewatering Chemical Pond B via pump into CAT water truck and placing into Pond 1 in the northeast corner. Ryan removing stockpiled vegetation on center dike between Pond 1 and 2 and placing into southwest corner of Pond 2 for material to be screened next week.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 6:00 to startup dewatering system. System was pumping at a rate of 610 gpm at 07:12. Turbidity readings were taken every hour, licensed operator onsite in the am. At 08:49 system was pumping at 612 gpm and had a totalizer reading of 8,126,998 gals.																												
<u>Summary of Dewatering through 06-01-19:</u>																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress and at 09:00 started return trip to Gladstone, MI office. All documents that I had for the project were left in the construction trailer for Dave Hutchinson.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Had discussion with John Johnson, Ryan surveyor to be onsite Tuesday June 4<sup>th</sup> as well as Rowe surveyor to perform a drone survey of existing conditions. Kilanski Excavating is scheduled to be onsite June 4<sup>th</sup> to set up screening plant.

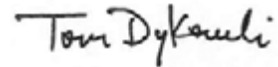
### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: Tom Dykowski

Signature:



**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

**PHOTOGRAPHS**

Ryan removing vegetation from center dike between Pond 1 and Pond 2.



Ryan staging vegetation near the southwest corner of Pond 2 prior to the screening of the material.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/3/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0600/1900
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 47
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 64
<b>Precipitation:</b> None	<b>Wind:</b> NE 4-9 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Excavator, 1-Cat 330C Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 1 Operator																												
Ryan dewatering Chemical Pond A into Chemical Pond B, then dewatering Chemical Pond B via pump into CAT water truck and placing into Pond 1 in the northeast corner. Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan excavated sump in southeast corner of Pond 1. Ryan cutting residual material in Chemical Pond A using Cat A200 dozer, material placed along slopes to dry for placement in Pond 1.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system. System was pumping at a rate of 264 gpm with a totalizer reading of 882,401 at 1149. Turbidity readings were taken every hour, licensed operator onsite during dewatering operations. At 1751 system was pumping at 261 gpm and had a totalizer reading of 976,134 gals.																												
<u>Summary of Dewatering through 05-31-19:</u>																												
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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Week 5  
06/03/19: 185,365 gal.  
8,489,653 gal.

**GAI CQA ACTIVITIES AND TEST RESULTS**

- Construction:
- Golder onsite documenting the construction progress.
  - Golder received site specific safety training.

**SUMMARY OF SURVEYOR'S ACTIVITIES**

None

**SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

**SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**


None

**SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

**SUBMITTED BY GOLDER:**

CQA Field Manager: David Hutchinson

Signature: 

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Dewatering Pond 2, Looking West

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Water level Pond 1, Looking South



Excavating Sump in southeast corner of Pond 2

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Cutting residual material in Chemical Pond A to dry prior to removal



Water level Chemical Pond B, Looking West

# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/4/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0700/1900
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Mostly Cloudy	<b>Temperature:</b> 53
<b>Weather (PM):</b> Cloudy	<b>Temperature:</b> 73
<b>Precipitation:</b> Rain	<b>Wind:</b> E 2-9 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 3 Operators																												
Ryan dewatering Chemical Pond A into Chemical Pond B, then dewatering Chemical Pond B via pump into CAT water truck and placing into Pond 1 in the northeast corner. Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan clearing/grubbing area west of Pond 1 using Cat 349F excavator, material loaded into haul truck for transport to PowerScreen for separating of organics from soil. Ryan removing residual material from Chemical Pond A using Cat 349E excavator, material loaded into haul truck for transport and placement in Pond A. Mobilized 621 PowerScreen.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system. System was pumping at a rate of 612 gpm with a totalizer reading of 25,629 at 0822. Turbidity readings were taken every hour, licensed operator onsite in A.M. At 1415 system was pumping at 601 gpm and had a totalizer reading of 258,412 gals.																												
<u>Summary of Dewatering through 06-04-19:</u>																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5  
06/03/19: 185,365 gal.  
06/04/19: 409,662 gal.  
**8,899,315 gal.**

### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder performed Paint Filter Test on residual material in Chemical Pond A in accordance to specifications, testing completed prior to removal and transport to Pond 1.

### SUMMARY OF SURVEYOR'S ACTIVITIES

Ryan and Rowe surveyors shot Pond 1 using drone.

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Water Level in Pond 2, Looking North



Water level Chemical Pond B, Looking West

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Screening cleared/grubbed material to remove organics



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---

Residual material in Chemical Pond A prior to removal and placement in Pond 1



Paint Filter test of residual material from Chemical Pond A

# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/5/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0700/1900
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Cloudy	<b>Temperature:</b> 59
<b>Weather (PM):</b> Cloudy	<b>Temperature:</b> 80
<b>Precipitation:</b> Rain	<b>Wind:</b> W 0-10 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 4 Operators																												
Ryan dewatering Chemical Pond A into Chemical Pond B, then dewatering Chemical Pond B via pump into CAT water truck and placing into Pond 1 in the northeast corner. Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan removing residual material from Chemical Pond A using Cat 349E excavator, material loaded into haul truck for transport and placement in Pond A. Ryan began clearing/grubbing along the top of shoreline slope east of Pond 2 working south to north.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 512 gpm at 0937. At 1222 system was pumping at 514 gpm. System was pumping at a rate of 508 gpm @ 1656.																												
<u>Summary of Dewatering through 06-04-19:</u>																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5

06/03/19: 185,365 gal.

06/04/19: 409,662 gal.

06/05/19: 345,122 gal.

**9,244,437 gal.**

### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

While removing residual material from Chemical Pond A down to clay liner encountered layer of bottom ash. Ryan excavated two test pits in the floor of pond on request of Golder's CQA, one each in the southwest and southeast corners to try and locate clay liner. Southwest test pit was excavated four feet below elevation of clay liner on drawings with only bottom ash being found. Southeast test pit excavated four foot below elevation of clay liner on drawings with an 8 inch layer of clay being found along the toe of the ponds east slope. Clay layer extended toward the center of pond for about 6 feet with it getting thinner until it ended in bottom ash. Notified Jeff Yuchasz and Rachel Thompson from CEC of our findings and to ask how they wanted to proceed with removal of the remaining residual material.

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Conference call with Jeff Yuchasz (CEC), Rachel Thompson (CEC), John Johnson (Ryan), Jeff Piaskowski (Golder) and David Hutchinson (Golder) held to discuss Chemical Pond A having no clay liner and document closure. Jeff Piaskowski that CEC environmental would need to make the decision on how to document closure without a clay layer to show all residual material had been removed.

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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**PHOTOGRAPHS**



Dewatering of Pond 2 into Discharge Channel, Looking South



Water level Pond 1, Looking Northwest

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Water level in Chemical Pond B, Looking West



Clearing/Grubbing atop shoreline slope east of Pond 2



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Test Pit in southwest corner of Chemical Pond A

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/6/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0646/1915
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Cloudy	<b>Temperature:</b> 61
<b>Weather (PM):</b> Cloudy	<b>Temperature:</b> 73
<b>Precipitation:</b> None	<b>Wind:</b> E 5-12 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat 349F Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 4 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan excavated bench above shoreline east of Pond 2 approximately 4 feet below existing road grade, material taken to Pond 1 for use to construct bridging layer. Ryan began placing bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan began clearing vegetation from floor of Pond 1. Ryan mobilized one Cat 349F Excavator.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 448 gpm at 0920. System was pumping at a rate of 443 gpm at 1532.																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5  
06/03/19: 185,365 gal.  
06/04/19: 409,662 gal.  
06/05/19: 345,122 gal.  
06/06/19: 311,007 gal.  
**9,555,444 gal.**

### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Meeting with Tom Shields (CEC) and Jeff Yuchasz (CEC), John Johnson (Ryan) and David Hutchinson (Golder) to discuss plan for placement of bridging layer and backfill of Pond 1. John told them he would start placing bridging layer along the north side of Pond 1 this afternoon using onsite materials as per specifications. Tom asked about using geotextile as called out on drawings and in the specs, John said that the geotextile would be arriving onsite Monday, 6.10.19. Golder said there was several rolls of 10oz. textile left over from construction of Cell 6 and said we should be able to use with the bridging layer but would have to confirm with the project engineer. Golder project engineer was contacted and said rolls of textile from cell 6 could be used with construction of the bridging layer.

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Water level of Pond 2, Looking South



Water level Pond 1, Looking Northwest

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Excavating bench above shoreline east of Pond 2, Looking North



Clearing vegetation from floor of Pond 1

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Bridging layer being placed in Pond 1

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/7/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1915
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Kilanski Excavating	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct) Dave (Kilanski)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 63
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 75
<b>Precipitation:</b> None	<b>Wind:</b> E 0-13 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat 349F Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 4 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1.																												
<b>Kilanski Excavating</b> – 1 operator																												
Continued screening vegetation removed from Pond 1 to separate organics from soils.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 375 gpm at 1201.																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5  
06/03/19: 185,365 gal.  
06/04/19: 409,662 gal.  
06/05/19: 345,122 gal.  
06/06/19: 311,007 gal.  
06/07/19: 276,790 gal.  
**9,832,234 gal.**

### **GAI CQA ACTIVITIES AND TEST RESULTS**

Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1.
- Golder observed removal of vegetation from Pond 1.

### **SUMMARY OF SURVEYOR'S ACTIVITIES**

None

### **SUMMARY OF PROBLEMS AND RESOLUTIONS**

None

### **SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)**

None

### **SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES**

None

### **SUBMITTED BY GOLDER:**

CQA Field Manager: David Hutchinson

Signature:





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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Placing bridging layer in northwest corner of Pond 1, Looking South



Placing concrete debris in Pond 1 prior to bridging layer

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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ProAct performing turbidity test on water being pumped from Pond 2.



Screening of vegetation removed from Pond 1

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Removing saturated material from floor of Pond 1 prior to placement of bridging layer.

# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/8/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1915
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Partly Cloudy	<b>Temperature:</b> 64
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 72
<b>Precipitation:</b> None	<b>Wind:</b> E 8-30 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat 349F Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 5 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan excavated pipe trench across access road between Ponds 1 and 2, installed 8 inch HDPE pipe to protect 6 inch pump discharge hose and backfilled. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan continued dewatering Chemical Pond A into Chemical Pond B.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system, due to high turbidity system put in recirculation mode to clean baker tanks prior to pumping to discharge channel. Turbidity readings were taken every hour. System was pumping at a rate of 255 gpm at 1312.																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5	gal.	Week 6
06/03/19:	185,365 gal.	06/08/19:
06/04/19:	409,662 gal.	
06/05/19:	345,122 gal.	
06/06/19:	311,007 gal.	
06/07/19:	276,790 gal.	
06/08/19:	<u>65,064 gal.</u>	
	<b>: 9,897,298 gal.</b>	

### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1.
- Golder observed removal of vegetation from Pond 1.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Discharge from dewatering of Pond 2 into discharge channel.



Chemical Pond A, Looking Southeast.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Temporary culvert installed for 6" pump discharge hose under access road between Ponds 1&2.



Removing vegetation from Pond 1

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Removing north perimeter road, material to be used for bridging layer. Looking Northeast.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/10/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1915
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Overcast	<b>Temperature:</b> 65
<b>Weather (PM):</b> Overcast	<b>Temperature:</b> 68
<b>Precipitation:</b> Rain	<b>Wind:</b> S 1-8 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat 326F Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 5 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan continued dewatering Chemical Pond A into Chemical Pond B. Ryan off-loaded 31 rolls of geotextile delivered to site using Cat 326F excavator. Ryan continued removing residual material from Chemical Pond A using Cat 349F excavator to load haul truck for transport to Pond 1 and placement as structural fill. John Deere 850X dozer used to cut material contaminated with residual for transport to Pond 1. Cat placing bridging layer across floor of Chemical Pond A using structural fill.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 282 gpm at 1045. System was pumping at a rate of 308 gpm at 1551.																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5	gal.	Week 6
06/03/19:	185,365 gal.	06/10/19: <u>175,022 gal.</u>
06/04/19:	409,662 gal.	<b>10,072,920</b>
06/05/19:	345,122 gal.	
06/06/19:	311,007 gal.	
06/07/19:	276,790 gal.	
06/08/19:	65,064 gal.	

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1 and Chemical Pond A.
- Golder observed removal of vegetation from Pond 1.
- Golder visually verified removal of residual in Chemical Pond A and clean sub-grade prior to backfill with onsite structural fill.
- Inventoried 31 rolls of geotextile delivered and off-loaded.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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**PHOTOGRAPHS**



Removing remaining residual in Chemical Pond A, Looking Southwest.



Loadout of residual from Chemical Pond A for transport to Pond 1, Looking West.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Chemical Pond A floor consisting of clean ash after removal of residual.



Placing bridging layer of structural fill across floor of Chemical Pond A, Looking North.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Water level of Pond 2, Looking Southeast.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/11/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1915
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 56
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 75
<b>Precipitation:</b> None	<b>Wind:</b> S 2-10 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat 326F Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 5 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan placed concrete debris into bottom of Pond 1 prior to placement of bridging layer. Ryan continued clearing vegetation from floor of Pond 1. Ryan continued backfill of Chemical Pond A using onsite structural fill placed in 12 inch loose lifts with a John Deere 850X dozer. Ryan removed two manholes and associated piping from north of Chemical Pond A and three manholes on west side of Chemical Pond B.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system, system put into recirculation mode until 0800 due to high turbidity. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 262 gpm at 0825. System was pumping at a rate of 352 gpm at 1628.																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---

Week 5	gal.	Week 6
06/03/19:	185,365 gal.	06/10/19: 175,022 gal.
06/04/19:	409,662 gal.	06/11/19: <u>184,365 gal.</u>
06/05/19:	345,122 gal.	<b>Total: 10,257,285 gal.</b>
06/06/19:	311,007 gal.	
06/07/19:	276,790 gal.	
06/08/19:	65,064 gal.	

### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1 and Chemical Pond A.
- Golder observed removal of vegetation from Pond 1.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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**PHOTOGRAPHS**



Placing concrete in Pond 1 prior to placement of bridging layer, Looking West.



Removing manhole from north side of Chemical Pond A, Looking West.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Clearing vegetation from Pond 1, Looking West.



Removing drain pipe from manhole at Chemical Pond A.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

---



Adding material to Chemical Pond B residual to dry for transport to Pond 1, Looking South.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/12/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1930
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Mostly Sunny	<b>Temperature:</b> 65
<b>Weather (PM):</b> Partly Sunny	<b>Temperature:</b> 75
<b>Precipitation:</b> None	<b>Wind:</b> E 3-10 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat 326F Excavator. 1-Volvo A40 Haul truck.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 5 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan continued backfill of Chemical Pond A using onsite structural fill placed in 12 inch loose lifts with a John Deere 850X dozer. Ryan removed manhole and associated piping from northeast corner of Chemical Pond B and associated piping. Cat 349F cut down the north and west berms of Chemical Pond B to existing road grade, material used to mix with residual in pond to dry for transport to Pond 1. Cat 349F loaded residual from Chemical Pond B into haul truck for transport to Pond 1. Water truck used for dust control throughout site. Ryan mobilized one Volvo A40 Haul Truck.																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system in Pond 2. Turbidity readings were taken every hour, licensed operator onsite in P.M. System was pumping at a rate of 255 gpm at 1130. System was pumping at a rate of 253 gpm at 1555.																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---

Week 5	gal.	Week 6
06/03/19:	185,365 gal.	06/10/19: 175,022 gal.
06/04/19:	409,662 gal.	06/11/19: 184,365 gal.
06/05/19:	345,122 gal.	06/12/19: <u>178,934 gal.</u>
06/06/19:	311,007 gal.	
06/07/19:	276,790 gal.	
06/08/19:	65,064 gal.	
<b>Total:</b>		<b>10,436,219 gal.</b>

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1 and Chemical Pond A.
- Golder observed removal of vegetation from Pond 1.
- Golder monitored removal of residual material in Chemical Pond B.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

Weekly construction meeting with CEC, Ryan, ProAct and Golder.

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Backfilling Chemical Pond A with structural fill, Looking West.



Cutting down north berm of Chemical Pond B, Looking northwest.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Mixing berm material with pond residuals to dry for transport to Pond 1, Looking north.



Placing Chemical Pond B residual material into Pond 1, Looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Removing residuals and cutting slopes down to clean sub-grade, Looking west.

# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/13/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1930
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Overcast	<b>Temperature:</b> 53
<b>Weather (PM):</b> Overcast	<b>Temperature:</b> 65
<b>Precipitation:</b> Rain	<b>Wind:</b> W 2-8 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator.

<b>SUMMARY OF CONSTRUCTION</b>																												
<b>Work performed while Golder was onsite:</b>																												
<b>Ryan Central</b> -1 Foreman, 7 Operators																												
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan removed manhole and associated piping from east side of Chemical Pond B. Cat 349F cut down berms around Chemical Pond B to clay core, material loaded into haul truck for transport to and placement in Pond 1. Cat 349F loaded remaining residual from Chemical Pond B into haul truck for transport to Pond 1. Water truck used for dust control throughout site. Ryan mobilized one Cat CS56B Smooth Drum Roller and one Komatsu PC360LC. Received delivery of D50/2 inch riprap. Ryan began placing material from screening of vegetation from Pond 1, material hauled. Ryan demobilized one Cat 326F excavator. Received delivery of D50 2 inch rip rap																												
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																												
ProAct onsite at 0700 to startup dewatering system in Pond 2. Turbidity readings were taken every hour, licensed operator onsite in P.M. System was pumping at a rate of 258 gpm at 1110. System was pumping at a rate of 255 gpm at 1444.																												
<u>Summary of Dewatering through 06-10-19:</u>																												
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5	gal.	Week 6
06/03/19:	185,365 gal.	06/10/19: 175,022 gal.
06/04/19:	409,662 gal.	06/11/19: 184,365 gal.
06/05/19:	345,122 gal.	06/12/19: 178,934 gal.
06/06/19:	311,007 gal.	06/13/19: 147,219 gal.
06/07/19:	276,790 gal.	
06/08/19:	65,064 gal.	
		<b>Total: 10,583,326 gal.</b>

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1.
- Golder observed removal of vegetation from Pond 1.
- Golder monitored removal of residual material in Chemical Pond B.
- Golder visually inspected Chemical Pond B to verify removal of residuals prior to grading pond.
- Golder collected sample of Class IIIA material backfill of culvert for grain size and proctor testing.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Cutting residual from Chemical Pond B, looking west.



Clean clay on floor of Chemical Pond B left after removal of residual.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Removing structural fill from berm of Chemical Pond B, looking south.



Removing vegetation from Pond 1, looking west.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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CS56B Smooth Drum mobilized to site, looking northeast.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/14/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1930
<b>Contractor(s):</b>	Ryan Central Inc. ProAct Kilanski Excavating	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct) Dave (Kilanski)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 50
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 74
<b>Precipitation:</b> None	<b>Wind:</b> E 3-11 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>																
<b>Work performed while Golder was onsite:</b>																
<b>Ryan Central</b> -1 Foreman, 7 Operators																
Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan cutting Chemical Ponds down to 2 feet below final grade for placement of clay structural fill, material cut was hauled to Pond 1 for placement in bridging layer. Water truck used for dust control throughout site. Ryan mobilized one Cat D6T Dozer. Ryan continued placing bridging layer using screened material from vegetation taken from Pond 1.																
<b>ProAct Services</b> – 1 Foreman and 1 Laborer																
ProAct onsite at 0700 to startup dewatering system in Pond 2. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 251 gpm at 0900. Received and set-up sand pots for filtering water being pumped from Pond 2.																
Kalanski Excavating – 1 Foreman																
Kalanski continued screening vegetation removed from Pond 1.																
<u>Summary of Dewatering through 06-10-19:</u>																
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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06/07/19: 276,790 gal.	06/14/19: 13,156 gal.		
06/08/19: 65,064 gal.			
<b>Total: 10,596,482 gal.</b>			


<b>GAI CQA ACTIVITIES AND TEST RESULTS</b>
Construction: <ul style="list-style-type: none"> <li>Golder onsite documenting the construction progress.</li> <li>Golder monitoring placement of bridging layer in Pond 1.</li> <li>Golder observed removal of vegetation from Pond 1.</li> <li>Golder shipped sample of Class IIIA pipe backfill for grain size and proctor testing.</li> </ul>

<b>SUMMARY OF SURVEYOR'S ACTIVITIES</b>
None

<b>SUMMARY OF PROBLEMS AND RESOLUTIONS</b>
None

<b>SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)</b>
None

<b>SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES</b>
None

<b>SUBMITTED BY GOLDER:</b>
<p>CQA Field Manager: David Hutchinson</p> <p style="text-align: right;">Signature: </p>

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Cutting down Chemical Pond A to 2 feet below final grade, looking south.



Placing bridging layer in Pond 1, looking southeast.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Screening of vegetation cleared from Pond 1, looking west.



Off-loading sand pots from flat bed, looking north.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Installing filters on filtration system at Pond 2.



Set-up of sand pots at Pond 2, looking west

# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/15/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1530
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Overcast	<b>Temperature:</b> 62
<b>Weather (PM):</b> Overcast	<b>Temperature:</b> 66
<b>Precipitation:</b> Rain	<b>Wind:</b> SW 3-19 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X1120D; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>																												
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 8 Operators</p> <p>Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan cutting Chemical Pond B and surrounding area down to 2 feet below final grade for placement of clay structural fill, material cut was hauled to Pond 1 for placement in bridging layer. Ryan hauled pile of vegetation cleared from Pond 1 to stockpile adjacent to power screen. Ryan graded shoreline haul road in preparation for delivery of D50 (30 inch) riprap.</p> <p><b>ProAct Services</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 0700 to startup dewatering system in Pond 2, backflush of system prior to pumping into the discharge channel. Turbidity readings were taken every hour, licensed operator onsite in A.M. System was pumping at a rate of 629 gpm at 0847. System was pumping at a rate of 526 gpm at 1314. ProAct replaced cloth filters about once per hour and back-flushed system about every 2 hours.</p> <p><u>Summary of Dewatering through 06-15-19:</u></p> <table border="1"> <thead> <tr> <th>Week 1</th> <th>Week 2</th> <th>Week 3</th> <th>Week 4</th> </tr> </thead> <tbody> <tr> <td>05/06/19: 281,988 gal.</td> <td>05/13/19: 399,021 gal.</td> <td>05/20/19: 328,687 gal.</td> <td>05/27/19: Holiday</td> </tr> <tr> <td>05/07/19: 387,165 gal.</td> <td>05/14/19: 484,537 gal.</td> <td>05/21/19: 402,720 gal.</td> <td>05/28/19: 386,176 gal.</td> </tr> <tr> <td>05/08/19: 405,104 gal.</td> <td>05/15/19: 486,473 gal.</td> <td>05/22/19: 487,716 gal.</td> <td>05/29/19: 468,094 gal.</td> </tr> <tr> <td>05/09/19: 404,705 gal.</td> <td>05/16/19: 481,499 gal.</td> <td>05/23/19: 408,516 gal.</td> <td>05/30/19: 357,569 gal.</td> </tr> <tr> <td>05/10/19: 410,498 gal.</td> <td>05/17/19: 484,331 gal.</td> <td>05/24/19: 484,613 gal.</td> <td>05/31/19: 161,965 gal.</td> </tr> <tr> <td>05/11/19: 64,691 gal.</td> <td>05/18/19: 249,566 gal.</td> <td>05/25/19: No dewatering</td> <td>06/01/19: No dewatering</td> </tr> </tbody> </table>	Week 1	Week 2	Week 3	Week 4	05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday	05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.	05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.	05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.	05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.	05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Week 5	Week 6
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.
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06/07/19: 276,790 gal.	06/14/19: 13,156 gal.
06/08/19: 65,064 gal.	06/15/19: gal.
	<b>Total: 10,596,482 gal.</b>

Note: 6/15/19 Data not available, update next workday.

### GAI CQA ACTIVITIES AND TEST RESULTS

Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1.
- Golder observed cutting Chemical Ponds to structural fill grade.
- Golder observed removal of vegetation from Pond 1.
- Golder observed dewatering of Pond 2.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Backflush of dewatering system at Pond 2, looking west.



Discharge from pumping of Pond 2, looking south.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Clearing vegetation from Pond 1, looking west.



Cutting area north of Chemical Pond B down to structural fill grade, looking west.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

---



Changing cloth filters, looking northeast.



Checking grade at Chemical Pond B, looking south.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/17/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1930
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>			
<b>Weather (AM):</b>	Overcast	<b>Temperature:</b>	60
<b>Weather (PM):</b>	Mostly Cloudy	<b>Temperature:</b>	69
<b>Precipitation:</b>	None	<b>Wind:</b>	E 4-10 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 8 Operators</p> <p>Ryan dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day. Ryan continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials. Ryan continued clearing vegetation from floor of Pond 1. Ryan continued cutting Chemical Pond B and surrounding area down to 2 feet below final grade for placement of clay structural fill, material cut was hauled to Pond 1 for placement in bridging layer. Ryan cut access road east of Pond 1 along shoreline down to grade for installation of riprap. Ryan cleared vegetation from slope along shoreline east of Pond 1 and cut slope to a 2 to 1 for placement of riprap working from south to north for about 100 feet. Ryan graded haul roads, repaired silt fence south of Chemical Pond B, received delivery of D50 – 30 inch riprap and D50 – 2 inch riprap.</p> <p><b>ProAct Services</b> – 1 Foreman and 1 Laborer</p> <p>ProAct onsite at 0700 to startup dewatering system in Pond 2, backflush of system prior to pumping into the discharge channel. Turbidity readings were taken every hour, licensed operator onsite in A.M. ProAct back flushed system every couple hours and changed filters about every hour. System was pumping at a rate of 535 gpm at 0840, 446 gpm at 1200 and 511 gpm at 1610.</p>

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

### Summary of Dewatering through 06-15-19:

Week 1	Week 2	Week 3	Week 4
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05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
Week 5	Week 6	Week 7	
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	<b>Total: 10,986,358 gal.</b>	
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.		
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.		
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.		
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.		

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitoring placement of bridging layer in Pond 1.
- Golder observed cutting Chemical Ponds to structural fill grade.
- Golder observed removal of vegetation from Pond 1 and along shoreline.
- Golder observed cutting of shoreline slope to grade for installation of riprap east of Pond 2.
- Golder observed dewatering of Pond 2.
- Golder collected samples of 21A and 23A aggregates for laboratory testing.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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**SUBMITTED BY GOLDER:**

**CQA Field Manager:** David Hutchinson

**Signature:**



### PHOTOGRAPHS



Cutting access road east of Pond 2 down to sub-grade, looking east.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Removing vegetation from shoreline slope east of Pond 2, looking north.



Cutting slope down to riprap sub-grade, looking northeast.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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D50 – 30 inch riprap stockpile for shoreline, looking west.



Checking grade in slope cut, looking northeast.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Overview of Pond 2 and water level, looking northwest.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/18/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1930
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Cloudy	<b>Temperature:</b> 67
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 74
<b>Precipitation:</b> None	<b>Wind:</b> E 1-5 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 8 Operators</p> <ul style="list-style-type: none"> <li>• Dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day.</li> <li>• Continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials.</li> <li>• Continued clearing vegetation from floor of Pond 1.</li> <li>• Continued cutting Chemical Pond B and surrounding area down to 2 feet below final grade for placement of clay structural fill, material cut was hauled to Pond 1 for placement in bridging layer.</li> <li>• Temporary repairs to soft spots along access road east of Pond 2.</li> <li>• Hauled material from screening of vegetation removed from ponds to Pond 1 for the bridging layer.</li> <li>• Continued clearing vegetation from slope along shoreline east of Pond 2.</li> <li>• Graded shoreline slope east of Pond 2 to grade for placement of geotextile and riprap for about 60 feet.</li> <li>• Installed 5 panels of 16oz. geotextile with 1 ½ to 2 foot overlap along shoreline slope.</li> <li>• Placed 6 inch riprap cushion using D50-2 inch riprap.</li> <li>• Began placement of D50-30 inch riprap onto cushion layer.</li> <li>• Received delivery of D50 – 30 inch riprap and D50 – 2 inch riprap.</li> </ul> <p><b>ProAct Services</b> – 1 Foreman and 1 Laborer</p> <ul style="list-style-type: none"> <li>• ProAct onsite at 0700 to startup dewatering system in Pond 2, backflush and power washing of the baker tanks was done prior to pumping through the filtering system and into the discharge channel.</li> <li>• Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in P.M.</li> <li>• System filters changed about every hour.</li> <li>• System was pumping at a rate of 446 gpm at 1515 and 465 gpm at 1612.</li> </ul>

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

### Summary of Dewatering through 06-15-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
Week 5	Week 6	Week 7	
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: <u>68,510 gal.</u>	
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	<b>Total: 11,053,868 gal.</b>	
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.		
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.		
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.		

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of bridging layer in Pond 1.
- Golder observed cutting Chemical Ponds to structural fill grade.
- Golder observed removal of vegetation from Pond 1 and along shoreline.
- Golder monitored cutting of shoreline slope to grade for installation of riprap east of Pond 2.
- Golder observed dewatering of Pond 2.
- Golder monitored installation of 16 oz. geotextile, D50-2 inch riprap cushion layer and D50-30 inch riprap along shoreline slope.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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**SUBMITTED BY GOLDER:**

**CQA Field Manager:** David Hutchinson

**Signature:**



### PHOTOGRAPHS



Removing vegetation along shoreline slope, looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Grading shoreline slope, looking south.



16 oz. geotextile installed along shoreline slope, looking east.



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Placing D50-2 inch cushion layer, looking north.



Placing D50-30 inch riprap, looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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ProAct changing filters during dewatering of Pond 2, looking north.



Overview and water level of Pond 2, looking northwest.

# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/19/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/2000
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Mostly Sunny	<b>Temperature:</b> 65
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 76
<b>Precipitation:</b> None	<b>Wind:</b> E 0-8 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>								
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -1 Foreman, 8 Operators</p> <ul style="list-style-type: none"> <li>Dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day.</li> <li>Continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials.</li> <li>Hauled vegetation stockpile from power screen to Pond 1 for bridging layer.</li> <li>Hauled spoils pile from screening to Pond 1 for placement below bridging layer.</li> <li>Continued grading shoreline slope east of Pond 2 to grade for placement of geotextile and riprap.</li> <li>Installed 13 panels of 16oz. geotextile with 1 ½ to 2 foot overlap along shoreline slope.</li> <li>Placed 6 inch riprap cushion using D50-2 inch riprap.</li> <li>Began placement of D50-30 inch riprap onto cushion layer.</li> <li>Received delivery of D50 – 30 inch riprap and D50 – 2 inch riprap.</li> </ul> <p><b>ProAct Services</b> – 1 Foreman and 1 Laborer</p> <ul style="list-style-type: none"> <li>ProAct onsite at 0700 to startup dewatering system in Pond 2.</li> <li>Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in A.M.</li> <li>System filters changed about every hour.</li> <li>System was pumping at a rate of 404 gpm at 0825, 240 gpm at 1440 and 242 gpm at 1642.</li> </ul> <p><u>Summary of Dewatering through 06-15-19:</u></p> <table> <thead> <tr> <th>Week 1</th> <th>Week 2</th> <th>Week 3</th> <th>Week 4</th> </tr> </thead> <tbody> <tr> <td>05/06/19: 281,988 gal.</td> <td>05/13/19: 399,021 gal.</td> <td>05/20/19: 328,687 gal.</td> <td>05/27/19: Holiday</td> </tr> </tbody> </table>	Week 1	Week 2	Week 3	Week 4	05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
Week 1	Week 2	Week 3	Week 4					
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday					

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
Week 5		Week 6	
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	Week 7	
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/17/2019: 247,813 gal.	
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/18/2019: 68,510 gal.	
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/19/2019: <u>215,872 gal.</u>	
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	Total:	11,269,740 gal.
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.		

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of bridging layer in Pond 1.
- Golder monitored cutting of shoreline slope to grade for installation of riprap east of Pond 2.
- Golder observed dewatering of Pond 1 and 2.
- Golder monitored installation of 16 oz. geotextile, D50-2 inch riprap cushion layer and D50-30 inch riprap along shoreline slope.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:



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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Grading shoreline slope to sub-grade for installation of geotextile, looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Checking grade atop geotextile, looking north.



Placing D50-30 inch riprap atop cushion layer along shoreline slope.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Overview of Pond 2, looking northeast.



Placing bridging layer in Pond 1, looking east.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Dewatering of Pond 2 to discharge channel, looking south.



Delivery of D50-30 inch riprap, looking east.



# DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/20/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0645/1900
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>			
<b>Weather (AM):</b>	Overcast	<b>Temperature:</b>	63
<b>Weather (PM):</b>	Overcast	<b>Temperature:</b>	65
<b>Precipitation:</b>	Rain	<b>Wind:</b>	E 1-15 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-PowerScreen, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>
<b>Work performed while Golder was onsite:</b>
<b>Ryan Central</b> -1 Foreman, 9 Operators
<ul style="list-style-type: none"><li>• Dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day.</li><li>• Continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials.</li><li>• Cut area southwest of Pond 2, material hauled to Pond 1 for bridging layer.</li><li>• Installed 3 panels of 16oz. geotextile with 1 ½ to 2 foot overlap along shoreline slope.</li><li>• Placed 6 inch riprap cushion using D50-2 inch riprap.</li><li>• Began placement of D50-30 inch riprap onto cushion layer.</li><li>• Received delivery of D50 – 30 inch riprap.</li></ul>
<b>ProAct Services</b> – 1 Foreman and 1 Laborer
<ul style="list-style-type: none"><li>• ProAct onsite at 0700 to startup dewatering system in Pond 2.</li><li>• Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in A.M.</li><li>• System back flushed several times throughout workday.</li><li>• System filters changed about every hour.</li><li>• System was pumping at a rate of 402 gpm at 0845 and 411 gpm at 1130.</li></ul>

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### Summary of Dewatering through 06-15-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
Week 5	Week 6	Week 7	
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117gal.	
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	Total: 11,475,857 gal.	
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.		

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of bridging layer in Pond 1.
- Golder observed dewatering of Ponds 1 and 2.
- Golder monitored installation of 16 oz. geotextile, D50-2 inch riprap cushion layer and D50-30 inch riprap along shoreline slope.
- Construction activities shutdown with exception of dewatering Pond 2 due to rain.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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**SUBMITTED BY GOLDER:**

**CQA Field Manager:** David Hutchinson

**Signature:**



### PHOTOGRAPHS



Placing bridging layer in Pond 1, looking northwest.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Installation of 16 oz. geotextile along shoreline slope, looking northeast.



Delivery of D50-30 inch riprap, looking south.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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D50/2 inch placement along shoreline slope, looking north.



Overview of Pond 1, looking east.

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**DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure**

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Overview/Water level Pond 2, looking west.



Southern end of shoreline, looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PROJECT OVERVIEW

<b>Project Title:</b> J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/21/2019
<b>Client:</b> Consumers Energy	<b>Site/Location:</b> Erie, MI	
<b>GAI Personnel:</b> David Hutchinson	<b>Arrival/Departure Time:</b> 0645/1930	
<b>Contractor(s):</b> Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b> John Johnson (Ryan Central) Guillermo Arredondo (ProAct)	

### SITE CONDITIONS

<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 55
<b>Weather (PM):</b> Mostly Sunny	<b>Temperature:</b> 75
<b>Precipitation:</b> None	<b>Wind:</b> NW 0-8 mph

### EQUIPMENT ON SITE

1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

### SUMMARY OF CONSTRUCTION

#### Work performed while Golder was onsite:

#### Ryan Central -1 Foreman, 9 Operators

- Dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day.
- Continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials.
- Cut area southwest of Pond 2, material hauled to Pond 1 for bridging layer.
- Installed 6 panels of 16oz. geotextile with 1 ½ to 2 foot overlap along shoreline slope.
- Placed 6 inch riprap cushion using D50-2 inch riprap.
- Began placement of D50-30 inch riprap onto cushion layer.

#### ProAct Services – 1 Foreman and 1 Laborer

- ProAct onsite at 0700 to startup dewatering system in Pond 2.
- Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in P.M.
- System back flushed several times throughout workday.
- System filters changed about every hour.
- System was pumping at a rate of 395 gpm at 0919, 382 gpm at 1151 and 459 gpm at 1514.

#### Kalanski – 1 Foreman, 2 Operators

- Kalanski demobilized power screen.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

### Summary of Dewatering through 06-15-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
Week 5	Week 6	Week 7	
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: <u>200,874 gal.</u>	
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	Total: 11,676,731 gal.	

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of bridging layer in Pond 1.
- Golder observed dewatering of Ponds 1 and 2.
- Golder monitored installation of 16 oz. geotextile, D50-2 inch riprap cushion layer and D50-30 inch riprap along shoreline slope.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature:





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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Overview of shoreline, looking north.



Placing D50/30 inch riprap along shoreline, looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Excavating berm in southwest of Pond 2, looking west.



Placing bridging layer in Pond 1, looking northwest.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Overview / Water level of Pond 2, looking west.



Overview of bridging layer in Pond 1 , looking south west.

## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

<b>PROJECT OVERVIEW</b>			
<b>Project Title:</b>	J.R. Whiting Ponds 1 and 2 Closure CQA	<b>Project Number:</b> 1788523	<b>Date:</b> 6/22/2019
<b>Client:</b>	Consumers Energy	<b>Site/Location:</b>	Erie, MI
<b>GAI Personnel:</b>	David Hutchinson	<b>Arrival/Departure Time:</b>	0630/1530
<b>Contractor(s):</b>	Ryan Central Inc. ProAct	<b>Contractor(s) Rep:</b>	John Johnson (Ryan Central) Guillermo Arredondo (ProAct)

<b>SITE CONDITIONS</b>	
<b>Weather (AM):</b> Sunny	<b>Temperature:</b> 58
<b>Weather (PM):</b> Sunny	<b>Temperature:</b> 76
<b>Precipitation:</b> None	<b>Wind:</b> W 3-8 mph

<b>EQUIPMENT ON SITE</b>
1-Kubota RTV X112OD; 1-CAT Water Truck; 1-CAT 349F Excavator; 1-CAT A200 LGP Dozer; Volvo A45G Haul truck, 1-Cat 963 Tracked Loader, 1-John Deere 644G Loader, 1-John Deere 850X Dozer, 1-Cat CS56B Smooth Drum Roller, 1-Volvo A40 Haul truck, 1-Komatsu PC360LC Long Reach Excavator, 1-Cat D6T Dozer.

<b>SUMMARY OF CONSTRUCTION</b>
<p><b>Work performed while Golder was onsite:</b></p> <p><b>Ryan Central</b> -2 Foreman, 8 Operators</p> <ul style="list-style-type: none"> <li>• Dewatering Pond 1 into Pond 2 with a 6-inch pump at various times throughout the day.</li> <li>• Continued placement of bridging layer along north side of Pond 1 in single 3 foot lift with onsite materials.</li> <li>• Cut area southwest of Pond 2, material hauled to Pond 1 for bridging layer.</li> <li>• Began over-excavation along the toe of Pond 1 west slope to remove saturated materials. Material hauled and placed to dry west of Pond 2.</li> <li>• Continued placement of D50-30 inch riprap onto cushion layer.</li> </ul> <p><b>ProAct Services</b> – 1 Foreman and 1 Laborer</p> <ul style="list-style-type: none"> <li>• ProAct onsite at 0600 to startup dewatering system in Pond 2.</li> <li>• Turbidity readings were taken by ProAct every hour while pumping to discharge channel and licensed tester onsite in P.M.</li> <li>• System back flushed several times throughout workday.</li> <li>• System filters changed about every hour.</li> <li>• System was pumping at a rate of 301 gpm at 0822 and 443 gpm at 1050.</li> </ul>

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### Summary of Dewatering through 06-15-19:

Week 1	Week 2	Week 3	Week 4
05/06/19: 281,988 gal.	05/13/19: 399,021 gal.	05/20/19: 328,687 gal.	05/27/19: Holiday
05/07/19: 387,165 gal.	05/14/19: 484,537 gal.	05/21/19: 402,720 gal.	05/28/19: 386,176 gal.
05/08/19: 405,104 gal.	05/15/19: 486,473 gal.	05/22/19: 487,716 gal.	05/29/19: 468,094 gal.
05/09/19: 404,705 gal.	05/16/19: 481,499 gal.	05/23/19: 408,516 gal.	05/30/19: 357,569 gal.
05/10/19: 410,498 gal.	05/17/19: 484,331 gal.	05/24/19: 484,613 gal.	05/31/19: 161,965 gal.
05/11/19: 64,691 gal.	05/18/19: 249,566 gal.	05/25/19: No dewatering	06/01/19: No dewatering
Week 5	Week 6	Week 7	
06/03/19: 185,365 gal.	06/10/19: 175,022 gal.	06/17/2019: 247,813 gal.	
06/04/19: 409,662 gal.	06/11/19: 184,365 gal.	06/18/2019: 68,510 gal.	
06/05/19: 345,122 gal.	06/12/19: 178,934 gal.	06/19/2019: 215,872 gal.	
06/06/19: 311,007 gal.	06/13/19: 147,219 gal.	06/20/2019: 207,117 gal.	
06/07/19: 276,790 gal.	06/14/19: 13,156 gal.	06/21/2019: 200,874 gal.	
06/08/19: 65,064 gal.	06/15/19: 142,063 gal.	06/22/2019: <u>102,207 gal.</u>	
		Total: 11,778,938 gal.	

### GAI CQA ACTIVITIES AND TEST RESULTS

#### Construction:

- Golder onsite documenting the construction progress.
- Golder monitored placement of bridging layer in Pond 1.
- Golder observed dewatering of Ponds 1 and 2.
- Golder monitored placement of D50-30 inch riprap along shoreline slope.

### SUMMARY OF SURVEYOR'S ACTIVITIES

None

### SUMMARY OF PROBLEMS AND RESOLUTIONS

None

### SUMMARY OF MEETINGS/DISCUSSIONS HELD (ATTENDEES AND ISSUES)

None

### SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES

None

### SUBMITTED BY GOLDER:

CQA Field Manager: David Hutchinson

Signature: 

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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### PHOTOGRAPHS



Outfall of water pumped from Pond 2 into discharge channel, looking south.



Overview of Pond 2, looking north.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Over-Ex along toe of Pond 1 west slope, looking west.



Placement of D50/30 inch riprap along shoreline slope, looking south.

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## DAILY FIELD FORM – J.R. Whiting Ponds 1 and 2 Closure

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Backflush of filters on Pond 2 dewatering system, looking north.



Over-Ex west side of Pond 1, looking north.