OHIO VALLEY ELECTRIC CORPORATION
3932 U. S. Route 23
P. O. Box 468
Piketon, Ohio 45661
740-289-7200

WRITER'S DIRECT DIAL NO:
740-897-7768

January 17, 2018

Mr. Craig Butler, Director
Ohio Environmental Protection Agency
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

Dear Mr. Butler:

Re: Ohio Valley Electric Corporation
Kyger Creek Station's 2017 Annual Landfill Inspection

As required by 40 CFR 257.106(g)(7), the Ohio Valley Electric Corporation (OVEC) is providing notification to the State Director of the Ohio Environmental Protection Agency that a qualified professional engineer has completed the 2017 CCR annual landfill inspection for OVEC's Kyger Creek Station. The inspection report has been placed in the facility's operating record as well as on the company's publically accessible internet site, which can be viewed at http://www.ovec.com/CCRCompliance.php

If you have any questions, or require any additional information, please call me at (740) 897-7768.

Sincerely,

Tim Fulk
Engineer I

TLF:klr

cc: J. M. Brown - System
G. S. Coriell
R. A. Osborne
G. A. Hope - Kyger
P. R. Hutchins
T. E. Schwall
D. Bergert - OEPA SEDO
J. S. Harmon - Stantech

Stantec Consulting Services Inc.
11687 Lebanon Road, Cincinnati OH 45241-2012

January 11, 2018

File: 175534017, 200.209

Ohio Valley Electric Corporation
Indiana-Kentucky Electric Corporation
Attention: Mr. Gabriel Coriell
3932 U.S. Route 23
P.O. Box 468
Piketon, Ohio 45661

Reference: 2017 CCR Rule Inspection
Annual Landfill Inspection
Kyger Creek Generating Station
Cheshire, Ohio

Dear Mr. Coriell,

Attached is the 2017 annual landfill inspection for the Kyger Creek Generating Station's Class III Residual Solid Waste Landfill. The site visit was performed on November 28, 2017. No rainfall was received by the site in the 72 hours prior to the visit. As a summary:

- In general, the exterior slopes of the active coal combustion residual (CCR) landfill were uniform and well vegetated. Active waste slopes were uniform without signs of visual slope instability on the day of the site visit.

- The Phase 1/Phase 2 separation/transition berm should be relocated with the toe of the active waste limit placed as shown in the construction drawings. This allows contact stormwater management within the CCR cell. CCRs were not noted downhill of the berm during this inspection.

- Mow the vegetation along the western edge of Phase 1 above the West Sedimentation Pond to understand potential stability concerns in this area. Characterize and remediate the sloughs as needed. The scarp on the northwestern exterior slope of the West Sedimentation Pond has been regraded and vegetated since the 2016 inspection.

- Monitor the termination of the Phase 1 underdrain system during site inspections. Characterize and address the seepage as part of operations. This area is contained within the waste footprint with surface water controls in place downstream.

- Maintain the vegetation near the Interim Leachate Collection Pond and address the erosion gullies along the western and southern interior embankment.

Reference: 2017 CCR Rule Inspection
Annual Landfill Inspection
Kyger Creek Generating Station
Cheshire, Ohio

- Development of an Operations and Maintenance Manual is recommended if not in place to maintain consistency of landfill operations during its life cycle.

Observations and recommendations are detailed in the associated annual landfill inspection report. A figure is included accompanied with a GPS location table to assist in addressing the observations and a photographic log.

Please contact us with any questions or concerns. We appreciate the opportunity to continue to work with the Kyger Creek Generating Station and the Ohio Valley Electric Corporation.

Regards,

Stantec Consulting Services Inc.

Jacqueline S. Harmon, P.E.
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James Swindler, Jr, P.E.
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James.SwindlerJr@stantec.com

Attachment: 2017 CCR Rule Inspection Kyger Creek Landfill

c. Stan Harris

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2017 CCR Rule Inspection
Kyger Creek Landfill

Kyger Creek Generating Station
Cheshire, Ohio
Gallia County

January 11, 2018

Prepared for:

Ohio Valley Electric Corporation
Piketon, Ohio

Prepared by:

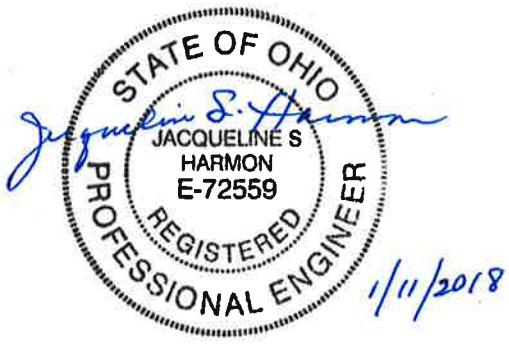
Stantec Consulting Services Inc.
Cincinnati, Ohio

Sign-off Sheet

This document entitled 2017 CCR Rule Inspection Kyger Creek Landfill was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Ohio Valley Electric Corporation (OVEC) (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule, and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use that a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)

Jacqueline S. Harmon, P.E.



Reviewed by _____
(signature)

James R. Swindler Jr., P.E.

Reviewed by _____
(signature)

Stan A. Harris, P.E.

Table of Contents

LIST OF APPENDICES

1.0 OVERVIEW

Stantec Consulting Services Inc. (Stantec) performed the annual landfill inspection of the existing coal combustion residuals (CCRs) landfill at the Kyger Creek Generating Station in Cheshire, Ohio on November 28, 2017.

This annual landfill inspection is intended to fulfill the requirements of 40 CFR 257.84(b) for the *Disposal of Coal Combustion Residuals from Electric Utilities* rule (CCR Rule) signed by the U.S. Environmental Protection Agency (EPA) Administrator on December 19, 2014 and published in the Federal Register on April 17, 2015.

The landfill is a residual solid waste facility (270834, RSWL018814) under the regulations of the Gallia County General Health District – RW3L and the Ohio Environmental Protection Agency (OEPA), Division of Materials and Waste Management. Below is a summary of conditions for the day of the inspection:

Date performed:	November 28, 2017
Weather:	Sunny, light wind, 29ºF - 66ºF
Rainfall over last 72 hours:	November 25, 2017 – 0.00 inches November 26, 2017 – 0.00 inches November 27, 2017 – 0.00 inches November 28, 2017 – 0.00 inches

Precipitation data was collected from the weather station at the Mason County Airport in Point Pleasant, West Virginia (K312), approximately 2.3 miles from the landfill.

Stantec's team that performed the fieldwork included:

- Jacqueline S. Harmon, P.E., Senior Associate/Geotechnical Engineer
  20 years of experience in geotechnical engineering, including dams, levees, and CCR storage facility closure.

- James R. Swindler, Jr., P.E., Senior Project Engineer/Geotechnical Engineer
  11 years of geotechnical engineering experience for a variety of infrastructure projects including dams, levees, and coal combustion byproduct storage facilities.

The estimated volume of CCRs contained in the landfill is 3,155,000 cubic yards. Inspections are being performed by plant personnel according to the CCR Rule at least once every seven days. Weekly reports performed between January 5, 2017 and December 7, 2017 were provided for review.

The Gallia County General Health District performs quarterly inspections in accordance with OEPA guidelines. The Ohio Valley Electric Corporation (OVEC) provided quarterly reports for the first, second, and third quarters of 2016. Per conversations with site personnel, a fourth quarter inspection by Gallia County is anticipated before the end of December.

Fieldwork was coordinated with Mr. Paul Hutchins, Kyger Creek Station's Landfill Engineer. Observations were briefly discussed with onsite personnel during and after completion of the field activities.

2.0 DESCRIPTION OF KYGER CREEK LANDFILL

The Kyger Creek Generating Station, located in Cheshire, Gallia County, Ohio, is a coal combustion power plant owned and operated by OVEC. The Kyger Creek Station's five units were commissioned in 1954 and 1955 and have a total generating capacity of 1,086 megawatts (OVEC, 2016).

CCRs produced by the Kyger Creek Generating Station are placed in the Kyger Creek restricted waste landfill. OVEC received its restricted waste permit and approval from the OEPA to begin construction on the landfill in April 2009. The landfill is a 98-acre Class III residual solid waste landfill with a capacity of 20.4 million cubic yards (Applied Geology and Environmental Science, 2015) that includes:

- A composite liner system consisting of an 18-inch recompacted soil liner, 30-mil polyvinyl chloride (PVC) geomembrane in Phases 1, 3, 4, and 5 with a 40-mil linear low-density polyethylene (LLDPE) geomembrane in Phase 2;
- Leachate collection system, including two lined leachate collection ponds;
- Contact and non-contact surface water management systems, including four sedimentation ponds, multiple sediment traps, drainage channels, and chimney drains;
- Groundwater monitoring system; and
- A final closure cap design.

Operation of the landfill began in 2010 with placement of Class III residual waste, including flue-gas-desulfurization (FGD) sludge, chloride purge steam filter cake, fly ash, and boiler slag. The landfill's anticipated lifespan is 20 years.

CCRs are transported by conveyor to a stacking pad southeast of the landfill and/or trucked to the Kyger Creek Landfill. Based on conversations with site personnel, the ash is placed in the landfill at approximately 30-percent moisture. The ash is placed in roughly one-foot lifts and then compacted. At times, the fly ash is mixed with other material, such as gypsum, with no segregation of the material during placement.

The landfill is divided into five phases with Phase 1 currently receiving CCRs. As previously noted, there are multiple ponds, both temporary and permanent, associated with the landfill. See the 2016 As-Built Map provided in Appendix C, Reference Drawings (OVEC, 2017). The ponds include:

- East Sedimentation Pond – a permanent pond located east of the landfill.
- West Sedimentation Pond – a permanent pond located at the toe of the west slope of Phase 1.
- Leachate Collection Pond – a permanent pond located east of the landfill and adjacent to the East Sedimentation Pond.
- Interim Leachate Collection Pond – temporary pond located at the east end of Phase 1.
- Sediment Pond #1 – a temporary pond located to the east of Phase 1. This pond has been capped.
- Sediment Pond #2 – a temporary pond located within the Proposed Clay Borrow area to the south of Phase 1.

- Temporary Contact Pond – a temporary pond located on the southwest end of Phase 2.

The stormwater sedimentation traps were also observed during the site visit.

An Operations and Maintenance Manual discussing the landfill or the ponds was not available for review.

2.1 KYGER CREEK LANDFILL – PHASE 1

The active waste cell is Phase 1, located in the southwestern portion of the landfill footprint. A series of chimney drains lie in the center portion of the phase and outlet on the east end into the Interim Leachate Collection Pond. Temporary soil cover has been placed and vegetated on the exterior slopes of Phase 1 where it is nearing final CCR grades (2016 As-Built Map, Appendix C).

2.2 KYGER CREEK LANDFILL – PHASES 2 THROUGH 5

Phases 2, 3, 4, and 5 have yet to be constructed. Phase 2 has been used as a borrow area and is vegetated and inactive. The general phasing plan is included in Appendix C.

3.0 OBSERVATIONS

3.1 KYGER CREEK LANDFILL – PHASE 1

The following observations were made while walking within and around the Phase 1 footprint. The photographic log is provided in Appendix B.

- The exterior temporary north slope of Phase 1 is mowed with vegetation less than 6 inches (Photo 1).
- A triangular zone of minimal vegetation was observed on the temporary slope between Phase 1 and 2. The maximum dimensions are 45 feet by 85 feet (Photo 1; Points 1 and 2, Appendix A).
- The Phase 1/Phase 2 separation/transition berm is visible in only a few areas. As waste placement comes up in Phase 1, it is tying into the separation/transition berm in several locations. CCRs were not noted downhill of the berm in the Phase 2 area adjacent to the active cell (Photos 2 and 3; Points 3 and 4, Appendix A).
- A CCR monitoring well was noted along the northern Phase 1 boundary. It was capped and locked with two bollards protecting the northern side of the well (Photo 4).
- Temporary CCR slopes within the landfill are being placed at a slope of approximately 3.3H:1V (horizontal to vertical) on the interior slopes and the eastern temporary slope of Phase 1 (Photos 5 and 6). Signs of instability such as sloughs or slides were not noted.
- A series of chimney drains was visible at regular intervals within the phase from west to east (Photos 7 and 8).

- The exterior slopes along the anchor trench on the south side and the west side have temporary cover that is mowed with vegetation less than 6 inches (Photos 9 and 10).

- Small diameter trees and taller vegetation (12 to 48 inches) remain on the western slope of Phase 1 above the West Sedimentation Pond. Field observations suggest multiple sloughs in this area, including a progressive slough with a total of 3-foot head scarp and a width of 38 feet located approximately 10 feet from the road elevation and a second smaller scarp located north of it. Heavy vegetation obscures clearer measurement of the conditions. This region is identified in red on the figure (Photo 11; Red region, Appendix A).

- Five 24-inch high-density polyethylene (HDPE) pipes underlie the access road west of Phase 1. The pipes outlet into a riprap-lined channel that flows to the West Sedimentation Pond. The pipe inlets are partially blocked due to soil erosion of the road and Phase 1 temporary cover. The roadway above the pipe outlets is heavily eroded (Photos 12 and 13; Points 7 and 8, Appendix A).

- Standing water was observed in an equipment rut just outside of Phase 1 (Photo 14; Point 9, Appendix A).

- The eastern temporary slope of Phase 1 shows erosion rills near the toe. Rows of 6-inch-diameter erosion control sock have been placed down the slope to slow surface water runoff. The zone is vegetated and mowed. This is a maintenance issue for observation (Photos 15 and 16; Point 10, Appendix A).

- A change of slope was noted on the northern section of the eastern Phase 1 face. No additional indicators of slope instability were observed. However, the region was noted for continued monitoring (Photo 17; Point 11, Appendix A).

- The area beyond the eastern edge of the active Phase 1 cell remains spongy with clear seepage flowing eastward (Photos 18 and 19; Point 12, Appendix A).

- The leachate pipe outlet from Phase 1 was observed within the Interim Leachate Collection Pond. It appeared to be freely flowing though obscured by vegetation (Photo 20).

- The overflow outlet within the Interim Leachate Collection Pond towards the Leachate Collection Pond appeared freely flowing, but was not protected by a cover grate (Photo 21).

- The slough previously observed on the south side of the Interim Leachate Collection Pond appears unchanged. Visual observation continues to be obscured by vegetation (Photo 22).

- Deep erosion gullies were noted on the western and southern interior slopes of the Interim Leachate Collection Pond. Gullies measured 1 to 2 feet with depths up to 2.5 feet (Photo 23; Points 13 and 14, Appendix A).

- A wet earth zone lies at the toe of proposed Phase 2 slope along the western side of the Interim Leachate Collection Pond crest.

- The bottom of the Interim Leachate Collection Pond was visible with algae and heavy reeds around the perimeter (Photo 24).

3.2 WEST SEDIMENTATION POND

The following observations were made during the site visit at the West Sedimentation Pond. The photographic log is provided in Appendix B.

- The small trees previously noted in the pond spillway during the 2016 inspection have been removed (Photo 25).

- The scarp observed on the outside slope of the pond adjacent to the Stormwater Outfall 034 channel during the 2016 inspection has been regraded and vegetated. Silt fence is present at the toe of the reworked area. A small scarp was noted at the southwestern end of the reworked zone north of Sediment Trap No. 13 (Photos 26; Point 6, Appendix A).

- Vegetation growth to a height of 12 to 48 inches was observed on the western exterior slope of the West Sedimentation Pond, obscuring visual observation (Photo 27).

3.3 EAST SEDIMENTATION POND

The following observations were made during the site visit at the East Sedimentation Pond. The photographic log is provided in Appendix B.

- Several erosion gullies are located along the northwest slope of the pond connecting the East Sedimentation Pond to the paved haul road (Photo 28; Point 16, Appendix A).

- The inlets of the two 36-inch corrugated plastic pipes (CPPs) west and north of the East Sedimentation Pond are unobstructed.

3.4 LEACHATE COLLECTION POND

The following observations were made during the site visit at the Leachate Collection Pond. The photographic log is provided in Appendix B.

- A seepage zone was observed along the southwestern edge of the pond. Flow through concrete joints within the pond was noted, and a wet region of the earthen embankment was noted (Points 17 and 18).

- Just north of the seepage zone, a riprap repair was performed on the western slope of the Leachate Collection Pond in the earthen zone above the concrete liner. This appears to address erosion gullies observed in the 2016 inspection (Photo 29; Points 19 and 20, Appendix A).

- A slough approximately 4-feet high and 20-feet wide was noted on the northwest interior slope above the concrete slope. This appears unchanged from the 2016 inspection report (Photo 30; Point 21, Appendix A).

- An erosion scour hole is present southwest of the existing emergency overflow structure for the pond. It appears lower in elevation than the spillway (Photo 31; Point 22, Appendix A).

- The outlet of a 12-inch outside diameter CPP was observed on the southeast side of the pond. The pipe empties into a riprap-lined channel that passes beneath the perimeter road via an 84-inch diameter concrete culvert. The pipes were unobstructed and flowing.

3.5 PERIMETER OF KYGER CREEK LANDFILL

The perimeter of the landfill was visited to observe surface water controls for the facility. The photographic log is provided in Appendix B. The following observations were made:

- The sedimentation traps along the perimeter haul road were observed during the December site visit. When accessible, pipe inlets and outlets were observed. The sedimentation traps appeared to be working as intended with minimal sedimentation buildup and freely flowing pipes.

- Along the gravel road to Phase 2, trees (2 to 3 inches in diameter) were observed at the stormwater drop inlets, channels, and pipe outlets. Flow did not appear to be restricted (Photo 32; Point 15, Appendix A).

4.0 RECOMMENDATIONS

The following recommendations are offered for the Kyger Creek Landfill. The recommendations are not listed in order of priority.

Stability Issues:

- Mow the vegetation along the western edge of Phase 1 above the West Sedimentation Pond to understand potential stability concerns in this area. Characterize and remediate the sloughs as needed.

- Maintain the vegetation along the interior and exterior slopes of the Interim Leachate Collection Pond. Redress the interior gullies as need, and characterize the slough on the southern side.

- Characterize and address the seepage occurring near the underdrain pipe at the east side of Phase 1. Take measures to control the flow, minimize sediment transport, and review the design to verify that it is performing as designed. Continue to monitor the toe of the active waste slope.

Operational Issues:

- Relocate the Phase 1/Phase 2 separation/transition berm. Maintain the toe of the active waste limit as shown in the construction drawings to allow contact stormwater management within the facility. CCRs outside of the berm were not observed during this field visit.

- Several wet or standing water zones were identified during this field visit following a dry period for the site. This is a known issue for the design, but should be monitored during operations for future planning purposes.

- An Operations and Maintenance Manual should be developed that includes provisions for the placement of materials within the landfill, the maintenance of the landfill, and the procedure to follow if issues arise during the operation of the landfill.

- Continue to conduct field surveys to measure current topography and compare to design geometry. Regrade surface to conform to design if needed. Areas near to final completion grade are recommended to be capped, closed, and vegetated. Further engineering evaluation of slope stability may be warranted, if deformations, steepened slopes, or sloughing indicate potential for significant instabilities.

Maintenance Issues:

- Remove the vegetation and sediment restricting flow through the five HDPE pipes flowing from the Phase 1 western slope to the West Sedimentation Pond. Repair and maintain the stormwater best management practice (BMPs) for the channels flowing to the pipes. Remediate the eroded area at the pipe outlets to protect the access road for Phase 1.

- Sediment buildup within the Interim Leachate Collection Pond may need to be addressed to maintain the required design capacity.

- Characterize and address the cause of the erosion scour hole west of the Leachate Collection Pond's overflow spillway.

- Monitor the slope change at toe of slope of the northeast Phase 1 face during the weekly and monthly inspections for changes to the current conditions.

- Maintain the vegetation along the exterior slopes and within the surface drainage channels to facilitate inspections by removing taller weeds and trees as needed.

- Continue to repair erosion gullies, reestablish grass vegetation, and monitor in future inspections.

- A cover grate is recommended for the overflow pipe at the Interim Leachate Collection Pond to minimize debris carried into the pipe.

5.0 REFERENCES

American Electric Power Service Corporation (AEPSC) (2017). "2017 Dam and Dike Inspection Report, GERS-15-025, Kyger Creek Station, Gallipolis, Ohio." Prepared by Geotechnical Engineering, Columbus, Ohio. August 16.

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Ohio Valley Electric Corporation (2017). "Kyger Creek Landfill 2016 As-Built Map." Drawing No. KYG-270834-1-R6, Revision date December 13, 2017. NAD83/NAVD88 Ohio South. Kclandfill2016swppi map-Model.pdf.

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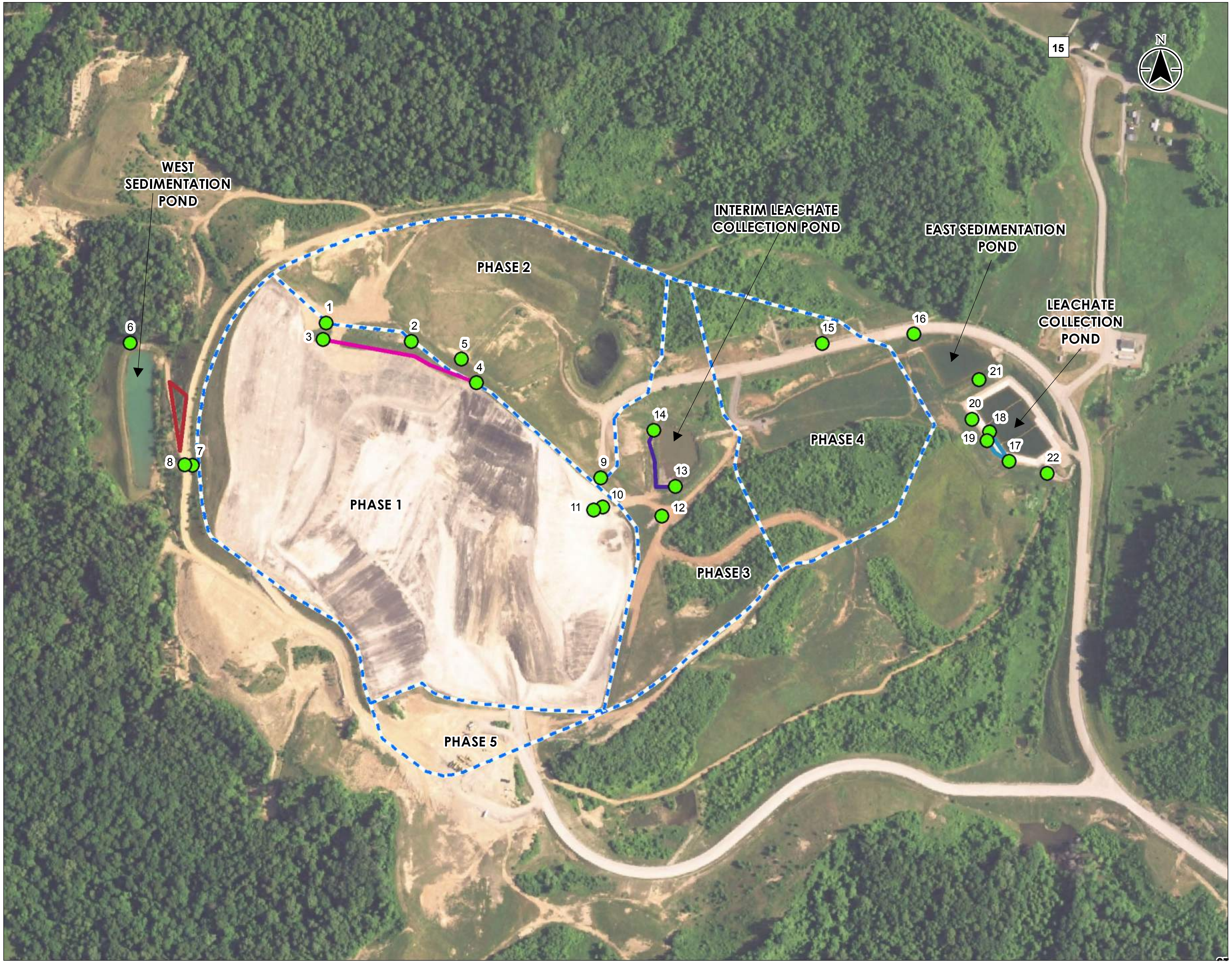
APPENDIX A
FIGURE 1 – PLAN VIEW

Kyger Creek Ash Landfill
2017 Annual Inspection - DRAFT

Point ID	Comment	Latitude	Longitude
1	End of bare area -max. dimensions 45' x 85'	38.926573	-82.167544
2	End of bare area -max. dimensions 45' x 85'	38.926365	-82.166352
3	Phases 1/2 separation transition berm	38.926390	-82.167588
4	Phases 1/2 separation transition berm	38.925909	-82.165439
5	Erosion gullies	38.926170	-82.165646
6	Small scarp	38.926359	-82.170298
7	Sedimented stormwater headwall	38.925014	-82.169430
8	Erosion of access road above stormwater discharge pipes	38.925023	-82.169538
9	Standing water in equipment rut on slope	38.924863	-82.163700
10	Erosion gully at toe of slope - 42" wide x 7" deep	38.924545	-82.163672
11	Change in slope on east end of Phase 1 slope	38.924513	-82.163803
12	Seep beyond toe of Phase 1 slope	38.924441	-82.162846
13	End of erosion gullies on interior slopes, 1-2' wide, 1-3' deep, heavily vegetated	38.924767	-82.162655
14	End of erosion gullies on interior slopes, 1-2' wide, 1-3' deep, heavily vegetated	38.925383	-82.162949
15	Tree growth in riprap at stormwater inlet along gravel road adjacent to Phase 2, 2-3" diameter	38.926328	-82.160587
16	Erosion gullies from roadway to Sediment Pond #1	38.926426	-82.159301
17	End of standing water/seepage zone above concrete apron and through pond joints	38.925027	-82.157969
18	End of standing water/seepage zone above concrete apron and through pond joints	38.925350	-82.158243
19	Beginning of riprap slope repair west of the East Sedimentation Pond	38.925253	-82.158277
20	End of riprap slope repair west of the East Sedimentation Pond	38.925491	-82.158487
21	Minor scarp on northern soil slope, approx. 20' wide, 4' high	38.925923	-82.158387
22	Erosion bowl west of overflow channel from Leachate Collection Pond.	38.924894	-82.157433



OVEC IKEC
Ohio Valley Electric Corporation / Indiana-Kentucky Electric Corporation

Stantec

Legend

- Inspection Location
- Phases
- Erosion gullies on interior crest
- Phases 1/2 separation transition berm
- Seepage zone above concrete apron and through joints
- Phase 1 western slope above West Sedminentation Pond

0 400 800 Feet

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Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features - ESRI
3. Ortho-Imagery does not represent current conditions.

Project Location

Kyger Fossil Plant
Gallia County, OH

175534017
Prepared by ANP on 2017-12-20
Technical Review by KB on 2017-12-20
Independent Review by JH on 2017-12-20

Client/Project

Ohio Valley Electric Corporation
Kyger Creek Landfill

Figure No.

1

Title

2017 Annual CCR Landfill Inspection

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APPENDIX B
PHOTOGRAPHIC LOG

Photo 1

Exterior temporary north slope of Phase 1, looking southeast. Note the triangular zone of minimal vegetation.

Photo 2

Phase 1/Phase 2 separation/transition berm at northern Phase 1 boundary, looking southeast.

Photo 3

Phase 1/Phase 2 separation/transition berm at northern Phase 1 boundary, looking northwest.

Photo 4

A CCR monitoring well located along the northern Phase 1 boundary, looking east.

Photo 5

Temporary CCR slopes within the Phase 1 landfill, looking north.

Photo 6

The eastern temporary slope of Phase 1, looking south.

Photo 7

Chimney drains in the Phase 1 footprint, looking southeast.

Photo 8

Chimney drains in the Phase 1 footprint, looking south.

Photo 9

The western Phase 1 slope has temporary cover that is mowed with vegetation less than 6 inches. Photo is looking south.

Photo 10

The southern Phase 1 slope has temporary cover that is mowed with vegetation less than 6 inches. Photo is looking southeast.

Photo 11

Slough on the western edge of Phase 1 above the West Sedimentation Pond, looking east. Observation is obscured by heavy vegetation.

Photo 12

The five stormwater pipes on the western edge of Phase 1 are partially blocked with sediment and obscured by vegetation. Photo is looking west.

Photo 13

Erosion of the access road above the stormwater discharge on the western edge of Phase 1, looking west.

Photo 14

Standing water in an equipment rut just outside of the northeast corner of Phase 1, looking southeast.

Photo 15

Erosion rills in the temporary cover of the eastern edge of Phase 1, looking northwest.

Photo 16

Erosion control socks are installed at regular intervals along the eastern edge of Phase 1.

Photo 17

A change in slope on the northeastern portion of the Phase 1 temporary slope. Photo is looking south.

Photo 18

Active clear water seep east of the Phase 1 toe of slope, looking north.

Photo 19

Active clear water seep east of the Phase 1 toe of slope, looking west.

Photo 20

The leachate pipe outlet into from Interim Leachate Pond from the eastern edge of Phase 1, looking southeast.

Photo 21

The overflow outlet for the Interim Collection Pond, looking south.

Photo 22

Slough on the southeastern exterior slope of the Interim Leachate Collection Pond, looking north.

Photo 23

Erosion gullies were observed on the western interior slope of the Interim Leachate Collection Pond. Photo is looking east.

Photo 24

The bottom of the Interim Leachate Collection Pond was visible with algae and heavy reeds around the perimeter. Photo is looking southeast.

Photo 25

The West Sedimentation Pond spillway is clear of woody vegetation. Photo is looking west.

Photo 26

The scarp observed on the north exterior slope of the West Sedimentation Pond has been regraded and vegetated. Photo is looking northwest.

Photo 27

The western exterior slope of the West Sedimentation Pond is obscured by vegetation. Photo is looking west.

Photo 28

Erosion gullies observed from the paved haul road to the East Sedimentation Pond, looking southeast.

Photo 29

The riprap repair on the western earthen slope above the Leachate Collection Pond, looking northwest.

Photo 30

A slough in the earthen embankment between the Leachate Collection Pond and the East Sedimentation Pond, looking west.

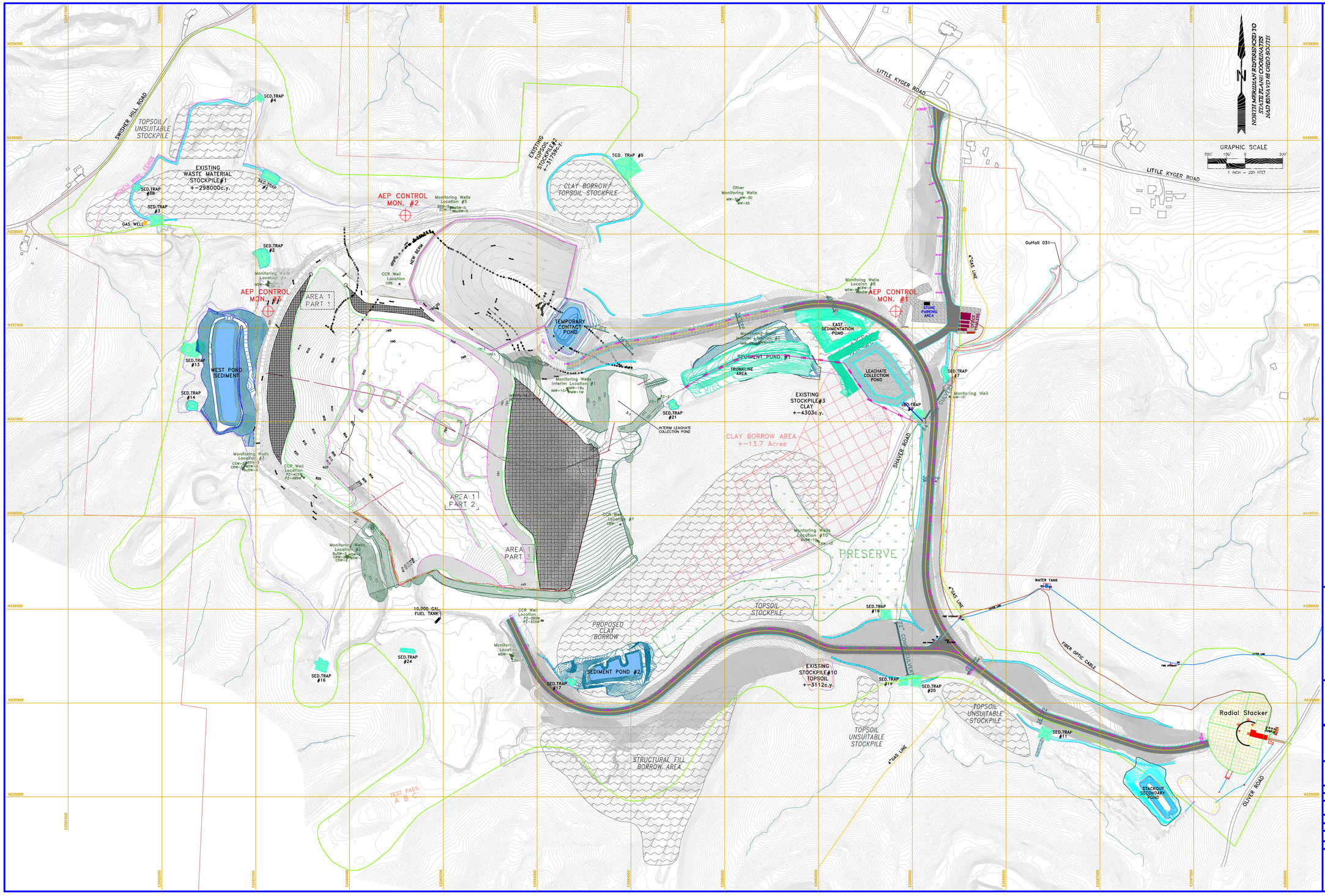
Photo 31

An erosion scour hole is present west of the overflow spillway for the Leachate Collection Pond. Photo is looking west.

Photo 32

Trees (2 to 3 inches in diameter) were observed at the stormwater drop inlets, channels, and pipe outlets. Photo is looking south.

APPENDIX C
REFERENCE DRAWINGS



LEGEND

- Denotes O.V.E.C. Boundary Line
- Denotes Permit Limits
- Denotes Super Silt Fence
- Denotes Diversion Ditch
- Denotes Gas Line
- Denotes Water Line
- Denotes Fiberoptic Line
- Denotes G.W.I. w/ 4"HDPE SDR7
- Denotes G.W.I. w/ No Pipe
- Denotes Toe Drain w/ 4" Schedule7
- Denotes Collection Trunk Piping 12"HDPE SDR7
- Denotes Culverts
- Denotes Creeks/Drains
- Denotes Woven Wire Fence
- Denotes Guardrail 2008
- Denotes Guardrail 2009
- Denotes Waste Limits
- Denotes Sediment Traps
- Denotes Sediment Pond
- Denotes Preserve Area
- Denotes Actual Clay Borrow Area
- Denotes Rip Rap
- Denotes Pavement
- Denotes Gravel
- Denotes Completed Earth Work
- Denotes 2011 Work
- Denotes Temporaty Cover
- Denotes Waste
- Denotes Protective Cover
- Dumpster Areas

NOTE: One area has final or transitional cover.

NOTE: Projected fill for 2013 will be above 2012 fill, and in phase one areas two and three.

NOTE: +- 3936' @ +- 4' depth of

NOTE: +- 9486' of installed guardrail

NOTE: Gas Line is at +- 2.5' depth

OHIO VALLEY ELECTRIC COMPANY

KYGER CREEK LANDFILL

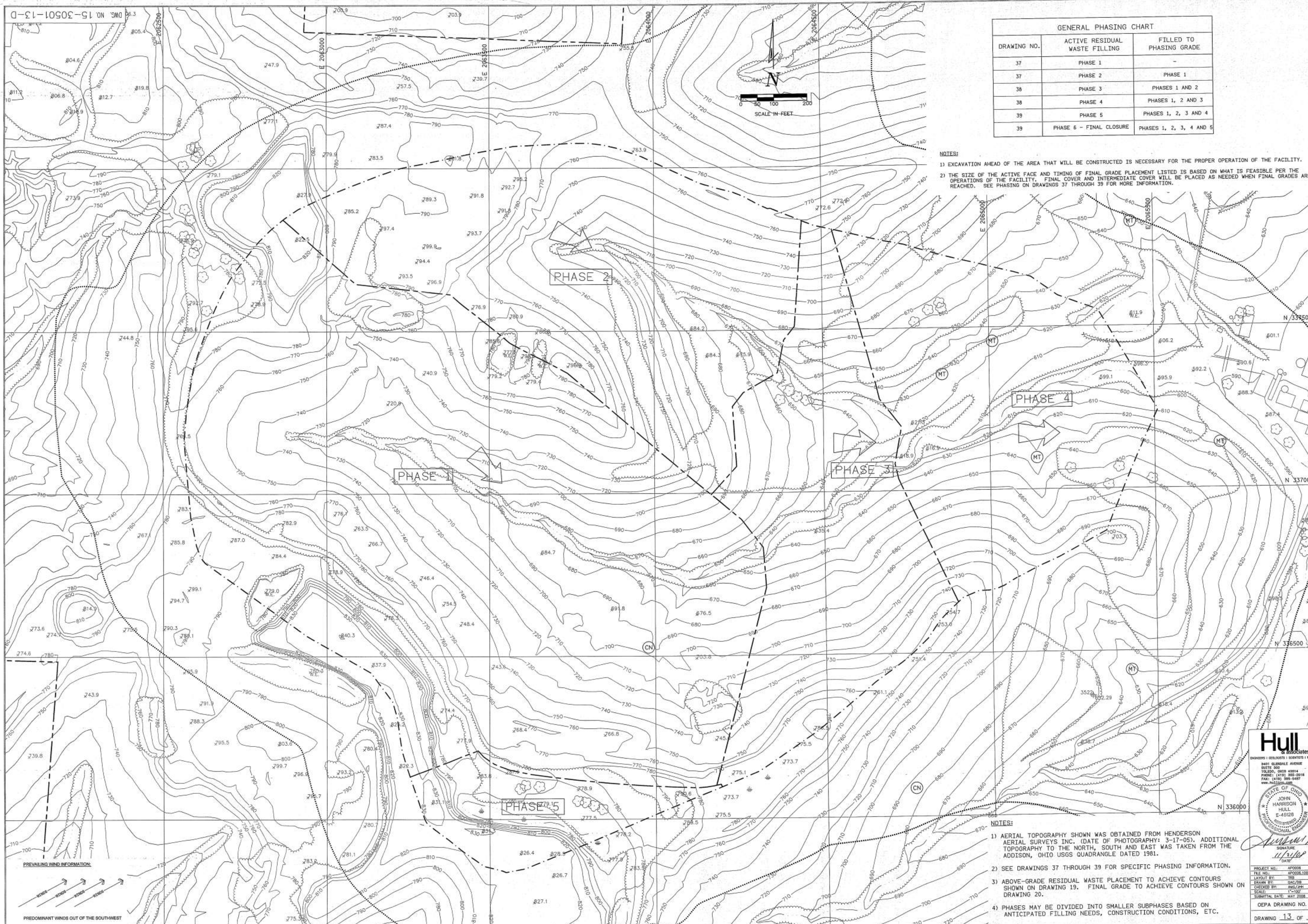
GHESHIRE OHIO

KYGER CREEK LANDFILL
2016 ASBUILT MAP

NAD 83/NAVD 88 OHIO SOUTH
CONTOUR INTERVAL = 1' FOOT

Drawing Name: KYGER CREEK LANDFILL ASBUILT MAP
Drawing Number: KYG - 27/834 -1 -R6
SCALE: 1" = 200'
Revision Date: 13 DECEMBER 2017
Drawn By: R. A. Shouldis and Paul R. Hutchins

OVEC IKEC



GENERAL PHASING CHART		
DRAWING NO.	ACTIVE RESIDUAL WASTE FILLING	FILLED TO PHASING GRADE
37	PHASE 1	-
37	PHASE 2	PHASE 1
38	PHASE 3	PHASES 1 AND 2
38	PHASE 4	PHASES 1, 2 AND 3
39	PHASE 5	PHASES 1, 2, 3 AND 4
39	PHASE 6 - FINAL CLOSURE	PHASES 1, 2, 3, 4 AND 5

NOTES:

1) EXCAVATION AHEAD OF THE AREA THAT WILL BE CONSTRUCTED IS NECESSARY FOR THE PROPER OPERATION OF THE FACILITY.

2) THE SIZE OF THE ACTIVE FACE AND TIMING OF FINAL GRADE PLACEMENT LISTED IS BASED ON WHAT IS FEASIBLE PER THE OPERATIONS OF THE FACILITY. FINAL COVER AND INTERMEDIATE COVER WILL BE PLACED AS NEEDED WHEN FINAL GRADES ARE REACHED. SEE PHASING ON DRAWINGS 37 THROUGH 39 FOR MORE INFORMATION.

NOTES:

1) AERIAL TOPOGRAPHY SHOWN WAS OBTAINED FROM HENDERSON AERIAL SURVEYS INC. (DATE OF PHOTOGRAPHY: 3-17-05). ADDITIONAL TOPOGRAPHY TO THE NORTH, SOUTH AND EAST WAS TAKEN FROM THE ADDISON, OHIO USGS QUADRANGLE DATED 1981.

2) SEE DRAWINGS 37 THROUGH 39 FOR SPECIFIC PHASING INFORMATION.

3) ABOVE-GRADE RESIDUAL WASTE PLACEMENT TO ACHIEVE CONTOURS SHOWN ON DRAWING 19. FINAL GRADE TO ACHIEVE CONTOURS SHOWN ON DRAWING 20.

4) PHASES MAY BE DIVIDED INTO SMALLER SUBPHASES BASED ON ANTICIPATED FILLING NEEDS, CONSTRUCTION CONDITIONS, ETC.

LEGEND - EXISTING

- PROPERTY LINE
- 730 — 10-FOOT CONTOUR INTERVAL
- 745.6 SPOT ELEVATION
- TREE LINE
- BUILDING
- (MT) MORGANTOWN SANDSTONE SPRING
- (CN) CONNELLSVILLE SANDSTONE SPRING

LEGEND - PROPOSED

- WASTE LIMIT
- FILL PROGRESSION
- WINDS → PREVAILING WIND DIRECTION
- PHASE DIVISION LINE
- FACILITY BOUNDARY/ AREA OF DISTURBANCE

REFERENCE DRAWINGS

DATE	NO.	DESCRIPTION	APPD.
11/20/08	D	NOD 3 RESPONSE	[signature]
5/28/08	C	NOD 2 RESPONSE	JHH
9/25/07	B	NOD 1 RESPONSE	JHH
2/28/07	A	ISSUED FOR PERMIT	JHH

REVISIONS

s:/mt/15/geo_hydro_site/vendor/hull/15-30501-09

Hull & associates, inc.
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3401 GLENDALE AVENUE
SUITE 300
TOLEDO, OHIO 43614
PHONE: (419) 385-2018
FAX: (419) 385-5487
www.hullinc.com

STATE OF OHIO
JOHN HARRISON HULL
E-45126
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
11/21/08
DATE

PROJECT NO.:	APO008
FILE NO.:	APO006.100.0116
LAYOUT BY:	TRB
DRAWN BY:	GAC/DB
CHECKED BY:	AMG/JHH
SCALE:	1"=100'
SUBMITTAL DATE:	MAY 2008

OEPA DRAWING NO. 3G

DRAWING 13 OF 56

OHIO VALLEY ELECTRIC CORP.

KYGER CREEK PLANT

CHESHIRE OHIO

KYGER CREEK PLANT LANDFILL

GENERAL PHASING PLAN

DWG. NO. 15-30501-13-D

SCALE: 1"=100'

CIVIL ENGINEERING DIVISION

DR:

CH:

ENGR:

PROJ. ENGR.

DATE: 11/7/08

APPROVED BY

AMERICAN ELECTRIC POWER

1 RIVERSIDE PLAZA
COLUMBUS, OH 43215