



**OHIO VALLEY ELECTRIC CORPORATION**

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WRITER'S DIRECT DIAL NO:  
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June 30, 2023

**Submitted Electronically**

Ms. Anne Vogel, Director  
Ohio Environmental Protection Agency  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, OH 43216-1049

Dear Ms. Vogel:

**Re: Ohio Valley Electric Corporation  
Kyger Creek Station's 2022 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 2022 CCR annual landfill inspection for the OVEC's Kyger Creek Station. The inspection report has been placed in the facility's operating record as well as on the company's publicly 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 740-289-7259.

Sincerely,

A handwritten signature in black ink that reads "Jeremy Galloway". The signature is written in a cursive, flowing style.

Jeremy Galloway  
Environmental Specialist

JDG:tlf



**2022 CCR Rule Inspection  
Kyger Creek Landfill**



Kyger Creek Generating Station  
Cheshire, Ohio  
Gallia County

June 2023

Prepared for:

Ohio Valley Electric Corporation  
Piketon, Ohio

Prepared by:

Stantec Consulting Services Inc.  
Cincinnati, Ohio

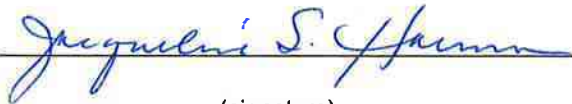


# Sign-off Sheet

This document entitled 2022 CCR Rule Inspection Kyger Creek Landfill was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of the 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  
**Matt Forrai, E.I.T.**

Reviewed by



(signature)

**Jacqueline S. Harmon, P.E.**



Reviewed by



(signature)

**Adam Sprague, P.E.**

6/30/2023

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## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

Overview  
June 2023

### 1.0 OVERVIEW

Stantec Consulting Services Inc. (Stantec) performed the annual landfill inspection of the existing coal combustion residuals (CCR) landfill at the Kyger Creek Generating Station in Cheshire, Ohio on October 25, 2022.

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 (GCGHD) – RW3L and the Ohio Environmental Protection Agency (OEPA), Division of Materials and Waste Management (DMWM). Below is a summary of conditions for the day of the inspection:

Date performed:	October 25, 2022
Weather:	Mostly cloudy, slight breeze, 44°F - 53°F
Rainfall over last 72 hours:	October 22, 2022 – 0.00 inch October 23, 2022 – 0.00 inch October 24, 2022 – 0.00 inch October 25, 2022 – 0.00 inch

Precipitation data was collected by the National Centers for Environmental Information, NOAA, for Gallipolis, Ohio US (USC00333029), approximately nine miles southwest of the landfill. Precipitation during the 72-hour period prior to the site visit was 0.00 inches.

Stantec's team that performed the fieldwork included:

- Jacqueline Harmon, P.E., Principal, Project Manager  
27 years of experience in geotechnical engineering, including pump stations, levees, and CCR storage facility design, closure, and operation.
- Adam Sprague, P.E, Civil Engineer  
8 years of civil engineering experience for a variety of infrastructure projects including dams, levees, and coal combustion byproduct storage facilities.
- Matt Forrai, Civil Engineer  
2 years of civil engineering experience with a focus on geotechnical and civil engineering.

The estimated volume of CCRs contained in the landfill is 4,483,794 cubic yards as of January 1, 2023. Inspections are being performed by plant personnel according to the CCR Rule at least once every seven

## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

Description of Kyger Creek Landfill  
June 2023

days. Weekly reports performed between January 6 and October 20, 2022 were provided for review. The Gallia County General Health District (GCGHD) performs quarterly inspections in accordance with OEPA guidelines.

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 the Ohio Valley Electric Corporation (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).

The 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 in April 2009. The landfill is a 98-acre Class III residual solid waste facility, divided into five phases, 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.

In July 2020, Ohio Environmental Protection Agency (OEPA) Southeast District Office (SEDO) approved an alteration to the landfill's bottom liner system to meet the federal EPA coal combustion residuals (CCR) Rule (40 CFR 257), adding a polymer-enhanced reinforced geosynthetic clay liner (GCL) between the flexible membrane liner and the recompacted soil liner. In April 2022, the OEPA Division of Materials and Waste Management (DMWM) approved an alteration to the bottom liner design of the landfill. The

## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

Description of Kyger Creek Landfill  
June 2023

recompacted soil liner was removed, and a geotextile cushion layer was added between the base flexible membrane liner and the aggregate leachate drainage layer.

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 2018 As-Built Map provided in Appendix C, Reference Drawings (OVEC, 2018). 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 within Phase 3 at the east end of Phases 1 and 2.
- 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 southeast end of Phase 2.

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

### 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 (2018 As-Built Map, Appendix C).

On October 27, 2021, trucks were placing loads of CCRs in an area to be spread and compacted. A GPS-equipped bulldozer was spreading and tracking in the piles into lifts.

### 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. Preconstruction activities for Phase 2 began in July 2022 with materials testing and rough grading for the north sedimentation pond. No construction activities have occurred within the Phase 2 cell. Phase 2 construction is anticipated in 2024. Photos 29 and 30 show the Phase 2 cell and construction in the North Sedimentation Pond footprint (Appendix B).

The general phasing plan for the landfill is included in Appendix C.

Observations  
June 2023

## 3.0 OBSERVATIONS

The following sections present observations made during the site visit within the Phase 1 footprint and pertinent water management ponds. Refer to the GPS point descriptions and figure in Appendix A along with the photographs and descriptions in Appendix B for observations. Where pertinent, nearby construction activities are noted. Slopes are estimated using a rangefinder on the handheld GPS unit.

### 3.1 KYGER CREEK LANDFILL – ACTIVE PHASE

Phase 1 is constructed with filling activities visible from the western access road. The paved haul road ends at the Phase 5 boundary shown on Figure 1 in Appendix A. Trucks hauling CCRs access the active placement area from this point. The Phase 5 footprint also have a contractor trailer and laydown area. Access to the southern and western sides of Phase 1 is by graded dirt roads around the contractor area.

- Southern exterior temporary slope of Phase 1 is mowed, vegetated, and uniform. A stormwater ditch is located at toe of slope adjacent to the southern access road. CCRs above the temporary slope are uniform and compacted. Slopes in this area are estimated at 2.9 horizontal (H) to 1 vertical (V). (Photos 1-3, Appendix B)
- Stormwater ditch maintenance is needed at the toe of slope between the exterior slope and the access road. Deeper erosion (20 inches deep) and a couple of large boulders present near Point 4. Three monitoring wells are located across the access road near Point 5. (Points 1 and 4, Appendix A; Photos 2 and 7, Appendix B)
- Active CCR placement was occurring in the southeastern portion of Phase 1. Chimney drains are visible along the centerline of Phase 1. (Photos 4-5, Appendix B)
- Slopes along southwestern side of Phase 1 estimated as 2.6H:1V in the temporary cover area and 5.1H:1V within the CCR area. (Points 2-3, Appendix A; Photo 6, Appendix B)
- A five-inch animal burrow is present near Point 6. (Appendix A)
- Slopes along the western temporary cover of Phase 1 are estimated as 1.37H:1V (Point 7) and 1.51H:1V for the CCR slopes (Points 8, 12, and 13). (Appendix A)
- Dormant vegetation and bare areas noted on the western exterior temporary slope. Points 9-11 and 14 show the length of the zone. (Appendix A; Photos 8-9, Appendix B)
- Stormwater ditch maintenance is needed at the toe of the CCR slope near point 15. (Appendix A; Photo 10, Appendix B)
- Segregated CCR pile (potentially gypsum) at northern end of Phase 1 near access road. (Points 16-17, Appendix A; Photos 11-12, Appendix B)

## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

Observations

June 2023

- Five plastic culverts connect the stormwater channel of the Phase 1 exterior temporary slope to the West Sedimentation Pond. Heavy woody vegetation at the upstream end inhibits inspection. Soil and debris limit the culvert capacity. Erosion gullies are present at the pipe outlets on the western side of the road. (Points 18-19, Appendix A; Photos 13-15, Appendix B)
- The eastern temporary slope of Phase 1 is mowed, uniform, and vegetated with a temporary silt trap at toe of slope. (Photo 23, Appendix B)
- A temporary silt trap is located at the toe of the eastern slope of Phase 1. (Photo 24, Appendix B)
- Erosion rills are noted above the temporary silt trap at the eastern Phase 1 slope toe. (Point 27, Appendix A; Photo 25, Appendix B)

### 3.2 WEST SEDIMENTATION POND

The West Sedimentation Pond was constructed as part of the initial Phase 1 site activities. Stormwater accesses the pond through the five culverts noted in the previous section. The slopes are heavily vegetated.

- Tall, dense vegetation limits inspection of the slopes of the West Sedimentation Pond.
- Small trees (3-10 inches trunk diameter) and a 7-inch diameter animal burrow are noted on the exterior slope of the pond at Points 20-22. (Appendix A)
- Points 23-26 note a 25-foot diameter slough with a 3-foot head scarp at the northwest exterior corner of the West Sedimentation Pond. Three boils (2 to 3 feet in diameter) were noted at the toe of slope. (Photos 16-18, Appendix A; Appendix B)
- The emergency spillway of the pond was moist, but no flowing water was visible.
- A new access road to the pond has been created at the southern edge near the monitoring wells noted at Point 5. The previous access road on the east side of the pond is impassable.

### 3.3 EAST SEDIMENTATION POND

The East Sedimentation Pond was constructed as part of the initial Phase 1 site activities. It manages stormwater from the eastern paved haul road and the closed Sediment Pond #1. See Appendix C for a plan view.

- The pool of the East Sedimentation Pond was low during the site visit.
- As observed in previous reports, several erosion gullies are located along the northwest slope of the pond connecting the East Sedimentation Pond to the paved haul road.
- Interior slopes of the pond appear stable.

## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

Recommendations  
June 2023

- Berm between East Sedimentation Pond and Leachate Collection Pond is well-vegetated and appears stable.
- Bank erosion was noted at Point 30 on the interior southeaster slope shared with the Leachate Collection Pond. (Appendix A; Photo 20, Appendix B)
- The Interim Leachate Collection Pond is located east of Phase 1. The crest was mowed, but the slopes are heavily vegetated. Cracks and small burrows were noted in the embankment. (Point 28, Appendix A; Photo 26, Appendix B)
- The access road and stormwater channel east of Phase 1 and south of the Interim Leachate Collection Pond is heavily vegetated. Erosion gullies were visible in this area. (Points 31-32, Appendix A; Photos 27-28, Appendix B)

### 3.4 LEACHATE COLLECTION POND

The Leachate Collection Pond is concrete lined and was constructed as part of the initial Phase 1 site activities. It manages leachate from the active CCR landfill. Flows are sent to the pond via pipes from the Interim Leachate Collection Pond. See Appendix C for a plan view.

- The earthen slopes above the concrete slopes appear well vegetated and uniform on all sides of the interior of the embankment at the Leachate Collection Pond.
- Stationary pumps are present at the south end and pump through the eastern culvert.
- Seepage was not noted around the southwestern riprap zone during this site visit.
- A small slough was noted in the north corner. (Point 29, Appendix A; Photo 22, Appendix B)

## 4.0 RECOMMENDATIONS

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

### Stability Issues:

- Keep the vegetation around the West Sedimentation Pond mowed to understand the ongoing stability concerns in this area. This affects the access road around Phase 1 of the landfill and the northwestern exterior slope of the West Sedimentation Pond. Characterize and remediate the sloughs as needed.
- Repair erosion above and on the crest and slope of the temporary silt trap at the eastern Phase 1 toe. Check inlet structure for blockage and consider adding overflow spillway.



## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

### References

June 2023

- Maintain the vegetation along the interior and exterior slopes of the Interim Leachate Collection Pond. Address the interior and exterior erosion as needed to maintain integrity of the temporary pond.
- Monitor wet areas and erosion along the road east of the Phase 1 cell. Characterize and remediate as needed.

### Operational Issues:

- Continue to conduct field surveys to measure current topography and compare to design geometry. Regrade surface to conform to design if needed. Areas near 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 sediment and vegetation 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 practices (BMPs) for the channels flowing to the pipes. Remediate the eroded area at the pipe outlets to protect the access road for Phase 1.
- Maintain the vegetation along the exterior slopes and within the surface drainage channels to facilitate inspections by removing taller weeds and trees as needed.
- Repair erosion gullies, re-establish grass vegetation, and monitor in future inspections.
- Inspection points were within the limits of waste noted on the reference drawings (Appendix C). However, additional measures are needed to limit infringement of waste beyond the lined footprint.
- Re-establishment stormwater channels as needed between the perimeter access road and the temporary slope of the active landfill.

## 5.0 REFERENCES

Applied Geology and Environmental Science, Inc. (2015). "Semi-Annual Groundwater Monitoring Report (April 2015 Sampling)." Ohio Valley Electric Corporation. Kyger Creek Plant Landfill. Gallia County, Cheshire, Ohio. June. Clinton, Pennsylvania.

Hull & Associates, Inc. (2009). "Ohio Valley Electric Corporation. Kyger Creek Plant Landfill, Phase 1 Construction Plans. Class III Residual Waste Facility. Cheshire, Ohio." Prepared for American Electric Power, Columbus, Ohio. March 19. Toledo, Ohio.

Hull & Associates, Inc. (2008a). "Section B – Hydrogeologic and Subsurface Investigation Report." Ohio Valley Electric Corporation. Kyger Creek Plant Landfill. Revised December. Dublin, Ohio.

## 2022 CCR RULE INSPECTION KYGER CREEK LANDFILL

### References

June 2023

Hull & Associates, Inc. (2008b). "Ohio Valley Electric Corporation. Kyger Creek Plant Landfill, Permit to Install Plans. Class III Residual Waste Facility. Cheshire, Ohio." Prepared for American Electric Power, Columbus, Ohio. November 20. Toledo, Ohio.

Ohio Environmental Protection Agency (OEPA) (2009). "Ohio Environmental Protection Agency, Permit to Install." FINAL. Application Number 06-08283. Received March 15, 2007. Ohio Valley Electric Corporation Kyger Creek Plant Landfill. New Residual Solid Waste Landfill. Effective Date: *not listed*.

Ohio Valley Electric Corporation (2016). [www.ovec.com](http://www.ovec.com), accessed December 2016.

Ohio Valley Electric Corporation (2018). "Kyger Creek Landfill 2018 As-Built Map." Drawing No. KYG-270834-1-R7, Revision date December 31, 2018. NAD83/NAVD88 Ohio South. Kcandfill2018grid phawse1-Model.pdf.

Ohio Valley Electric Corporation (2022). "7-Day Inspection Checklist. Kyger Creek Plant Landfill." Weekly reports for January 6 through October 20, 2022.

Professional Service Industries, Inc. (PSI) (2010). "Construction Certification Report. Area 1 Part 1, Kyger Creek Plant Landfill, 212 Shaver Road, Cheshire, Ohio 45620." PSI Report 114-80062-1531. November 30. Columbus, Ohio.

S&ME, Inc. (2014). "Construction Certification Report, Leachate Collection System Expansion, Kyger Creek Plant, Residual Waste Landfill." January.

**APPENDIX A – PLAN VIEW AND TABLE OF  
INSPECTION LOCATIONS**

GPS Data Points  
2022 Annual Inspection

Kyger Creek Landfill  
Gallia County, Ohio

Point ID No.	Comment	Latitude	Longitude
1	maintain stormwater ditch	38.92384391	-82.16880892
2	southwest Phase 1 slope point (2.6H:1V)	38.92417497	-82.16898921
3	southwest Phase 1 ridge by slope point	38.92411207	-82.16905598
4	southwest Phase 1 ridge by slope point, maintenance - stormwater ditch	38.92429326	-82.16926904
5	southwest Phase 1 monitoring wells	38.92425521	-82.16945547
6	southwest Phase 1 vector	38.92433839	-82.16944196
7	southwest Phase 1 slope (2.6H:1V)	38.92451069	-82.16930772
8	southwest Phase 1 slope (5.1H:1V)	38.92447966	-82.16908166
9	southwest Phase 1 dormant veg, flat area	38.92466260	-82.16918485
10	west Phase 1 bare area	38.92481937	-82.16918706
11	west Phase 1 bare area 2	38.92520049	-82.16919635
12	west Phase 1 slope upper (5.1H:1V)	38.92521631	-82.16891229
13	west Phase 1 slope (5.1H:1V)	38.92565247	-82.16900443
14	west Phase 1 end brown zone	38.92584280	-82.16909494
15	west Phase 1 channel CCR top ridge	38.92595253	-82.16888326
16	west Phase 1 gypsum segregation	38.92638547	-82.16858564
17	west Phase 1 gypsum end	38.92696516	-82.16829932
18	west Phase 1 culvert, heavy woody v	38.92501122	-82.16944106
19	west Phase 1 culvert, downstream	38.92501168	-82.16953734
20	West Sed. Pond tree on west dike	38.92504740	-82.17046191
21	West Sed. Pond tree on west dike	38.92536906	-82.17044386
22	animal burrow in dike	38.92546737	-82.17040710
23	slide on West Sed. Pond west dike	38.92618148	-82.17042859
24	slide on West Sed. Pond west dike 2	38.92620027	-82.17056001
25	boil on West Sed. Pond west dike 2	38.92624614	-82.17063844
26	bare area on West Sed. Pond west dike 2	38.92629387	-82.17050565
27	east slope Phase 1 erosion gully	38.92427400	-82.16321909
28	cracks/small holes on Interim Leachate Coll. Pond	38.92485747	-82.16248754
29	leachate pond small slide	38.92601162	-82.15796904
30	east sedimentation pond bank erosion	38.92594654	-82.15850688
31	stormwater erosion gully	38.92501203	-82.16201375
32	stormwater erosion gully	38.92452946	-82.16288611







## **APPENDIX B – PHOTOGRAPHIC LOG**



**Photo 1**

Photo of southwest outer slope of Phase 1, looking southwest. Near the Phase 1/Phase 5 juncture on the southern access road.



**Photo 2**

Photo from top of CCRs on south side of Phase 1, looking west. Soil stockpile on far side of southern access road. (Point 1, Appendix A)



**Photo 3**

Photo from top of CCRs on southwest side of Phase 1, looking southeast. Southern access road on right side.



**Photo 4**

Active CCR placement within the southeastern portion of Phase 1, looking southeast.



**Photo 5**

Chimney drains visible along the centerline of Phase 1, looking north.



**Photo 6**

Southwestern edge of Phase 1 near Points 2, 3, 4, and 5, looking west from southern access road. (Points 2-3, Appendix A)





**Photo 7**

Stormwater ditch maintenance needed between exterior temporary slope and access road, looking northwest. (Point 4, Appendix A)



**Photo 8**

Western exterior temporary slope and CCR within Phase 1, looking north. (Point 8, Appendix A) Note dormant vegetation and bare areas on the left side of photo. (Points 9-11 and 14, Appendix A)



**Photo 9**

Western exterior temporary slope, looking south. Dormant vegetation and bare areas noted. (Points 9-11 and 14, Appendix A)



**Photo 10**  
Stormwater ditch maintenance at toe of CCRs near Point 15, looking south.  
(Appendix A)



**Photo 11**  
Segregated materials near Point 16, looking east. (Appendix A)



**Photo 12**  
End of segregated materials near Point 17, looking east. (Appendix A)





**Photo 13**

Headwall at the upstream end of the culverts from Phase 1 to the West Sedimentation Pond, looking south. (Point 18, Appendix A)



**Photo 14**

Pipe outlets of the culverts under the access road flowing to the West Sedimentation Pond, looking west. (Point 19, Appendix A)



**Photo 15**

Soil and debris at headwall of culverts accessing the West Sedimentation Pond. (Point 18, Appendix A)



**Photo 16**

Head scarp of slough at northwest exterior corner of West Sedimentation Pond. (Points 25-28, Appendix A)



**Photo 17**

Boil at toe of exterior slope of northwest corner of West Sedimentation Pond. (Points 25-28, Appendix A)



**Photo 18**

Head scarp of slough at northwest exterior corner of West Sedimentation Pond. (Points 25-28, Appendix A)





**Photo 19**

The pool elevation was lowered at the East Sedimentation Pond during the site visit, looking northeast.



**Photo 20**

Bank erosion on interior southeastern slope of East Sedimentation Pond. (Point 30, Appendix A)



**Photo 21**

Leachate Collection Pond, looking northwest. (Appendix A)



**Photo 22**

Small slough in north corner of the Leachate Collection Pond. (Point 29, Appendix A)



**Photo 23**

Eastern temporary slope of Phase 1, looking south.



**Photo 24**

Temporary silt trap at toe of eastern Phase 1 slope, looking south.



**Photo 25**

Erosion rills above temporary silt trap at toe of eastern Phase 1 slope. (Point 27, Appendix A)

**Photo 26**

Interim Leachate Collection Pond east of the Phase 1 footprint, looking southwest. East face of Phase 1 in background. (Point 28, Appendix A)

**Photo 27**

Access road and stormwater erosion east of the Phase 1 landfill, looking east. Interim Leachate Collection Pond on the left. (Points 31-32, Appendix A)



**Photo 28**

Access road and stormwater erosion east of the Phase 1 landfill, looking west. Interim Leachate Collection Pond on the right. (Points 31-32, Appendix A)



**Photo 29**

Phase 2 cell, looking southeast. Equipment staged for North Sedimentation Pond construction on left. Phase 1 at right.



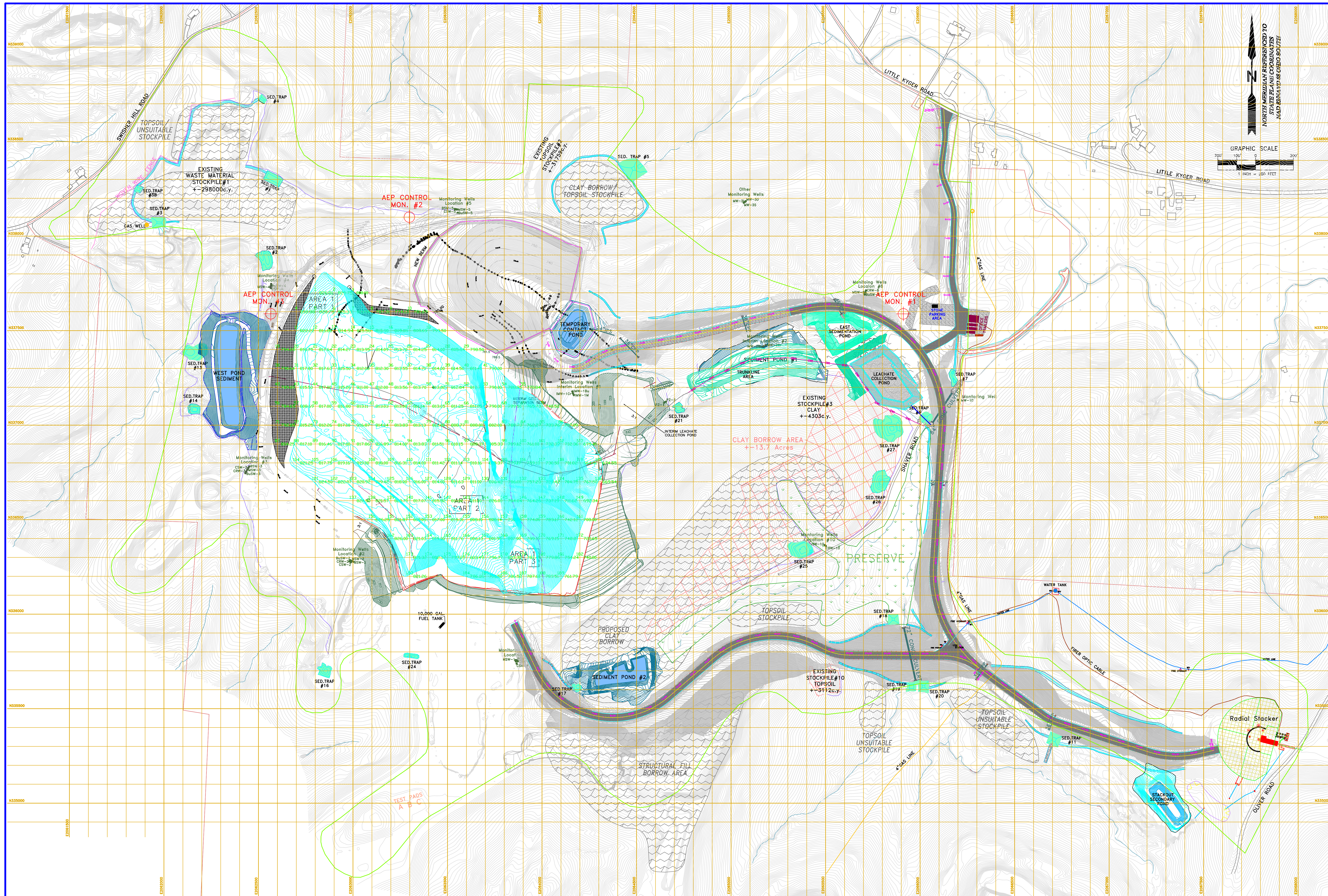
**Photo 30**

North Sedimentation Pond construction activities, looking northeast.



## **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" Schedule 7
- 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 Temporary Cover
- Denotes Waste
- Denotes Protective Cover
- Denotes 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

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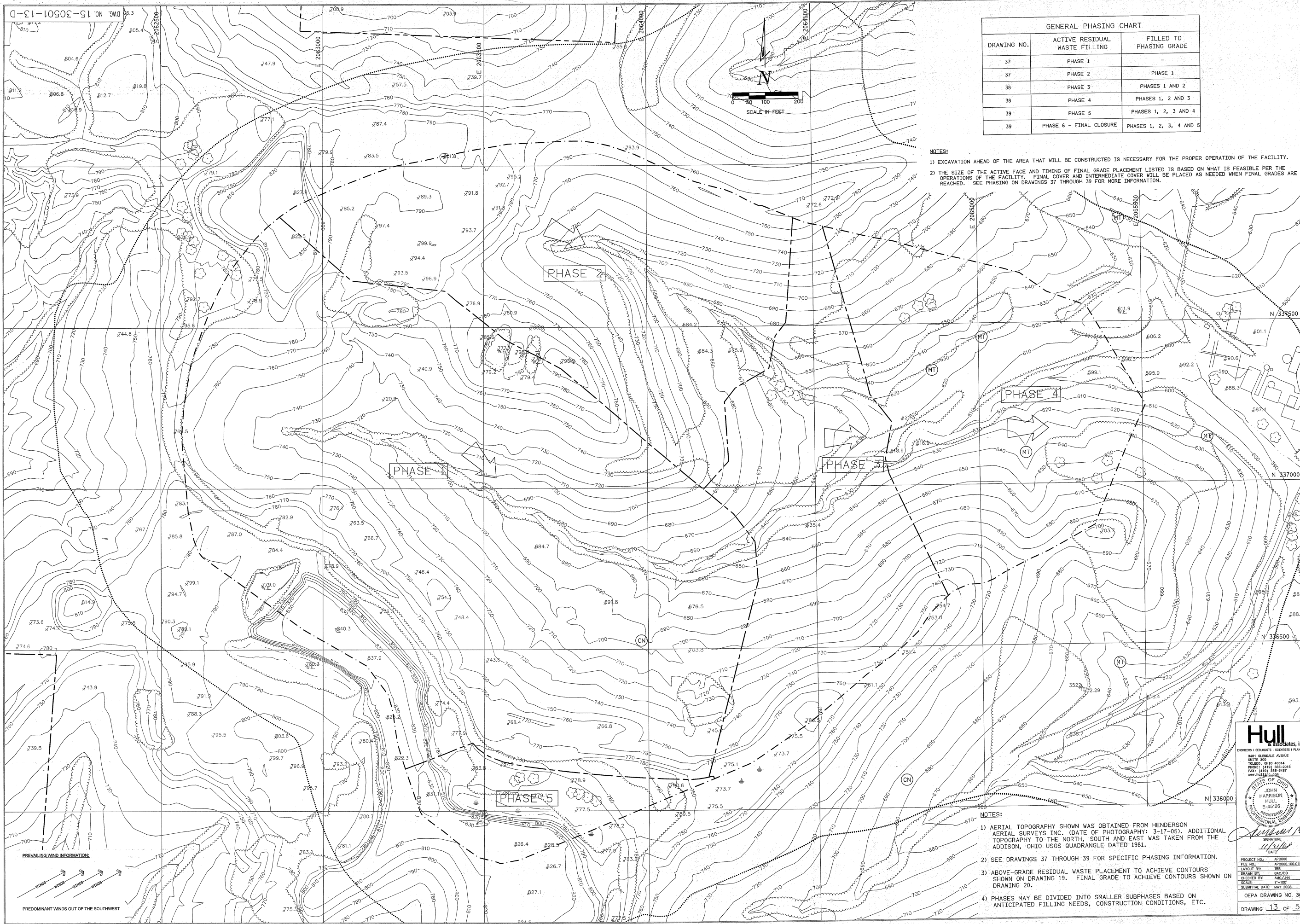
**OHIO VALLEY ELECTRIC COMPANY**  
**KYGER CREEK LANDFILL**  
 CINCINNATI OHIO

**KYGER CREEK LANDFILL**  
 2018 ASBUILT GRID MAP  
 NAD 83/NAVD 88 OHIO SOUTH  
 CONTOUR INTERVAL = 1' FOOT

Drawing Name: **KYGER CREEK LANDFILL ASBUILT MAP**  
 Drawing Number: **KYG-270834-2-R8**  
 SCALE: 1" = 200'  
 Revision Date: 31 DECEMBER 2018  
 Drawn By: R. A. Shoultis and Paul R. Hutchins

**OVEC/KEC**





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.

**LEGEND - EXISTING**

- PROPERTY LINE
- 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
- PREVAILING WIND DIRECTION
- PHASE DIVISION LINE
- FACILITY BOUNDARY / AREA OF DISTURBANCE

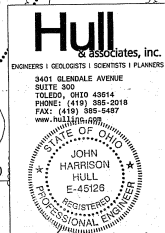
**REFERENCE DRAWINGS**

DATE	NO.	DESCRIPTION	APPD.
11/29/08	D	NOD 3 RESPONSE	JHH
11/29/08	C	NOD 2 RESPONSE	JHH
11/29/07	B	NOD 1 RESPONSE	JHH
8/29/07	A	ISSUED FOR PERMIT	JHH

**REVISIONS**

NO.	DATE	DESCRIPTION
1	11/29/08	ISSUED FOR PERMIT

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PROJECT NO.: APO008  
 FILE NO.: APO008.000.0116  
 LAYOUT BY: JHH  
 DRAWN BY: GAC/208  
 CHECKED BY: AMH/208  
 SCALE: 1"=100'  
 SUBMITTAL DATE: MAY 2008  
 OSPA 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

DATE: 11/29/08  
 APPROVED BY: [Signature]  
 1 RIVERSIDE PLAZA  
 COLUMBUS, OH 43215

- 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.

