Prepared For:

Gavin Power, LLC

Cheshire, Ohio

2017 Annual Inspection Report

Residual Waste Landfill
Gavin Power Plant
Cheshire, Ohio

8 January 2018

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The business of sustainability

Gavin Power, LLC

2017 Annual Inspection Report

Residual Waste Landfill
at Gavin Power Plant in Cheshire, Ohio

January 2018

Project No. 0402270

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1.0 INTRODUCTION

The Residual Waste Landfill at the Gavin Power, LLC (Gavin Power) facility in Cheshire, Ohio, is a facility subject to the requirements of the 2015 United States Environmental Protection Agency Rule 40 Code of Federal Regulations (CFR) Part 257, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCRs) from Electric Utilities, also referred to as the CCR Rule. The CCR Rule requires an annual inspection and associated reporting of the findings for CCR landfill disposal facilities. In addition, any lateral expansion of the CCR unit that occurs between annual reports shall be examined and included in the subsequent annual report. This Annual Inspection Report of the Gavin Residual Waste Landfill has been prepared by Environmental Resources Management, Inc. (ERM) to comply with the requirements of the CCR Rule.

1.1 SUMMARY OF CONDITIONS OF ANNUAL INSPECTION

The annual inspection was performed by Mr. James Hemme, P.E., and Mr. Matt Hurst, P.E., Ph.D. of ERM. Mr. Douglas E. Workman, Environmental & Laboratory Supervisor at Gavin Power, and Mr. Colin McKean, Landfill Process Owner, were the facility contacts and supported inspection activities. Other members of the Gavin Power team assisted with logistics and provided data for completion of the inspection and report.

The inspection for the Residual Waste Landfill was performed on October 25, 2017. Weather consisted of overcast skies, light wind, and intermittent light rain. Temperatures ranged from 40°F to 50°F. The inspection started with a safety briefing and preparation of a job hazard analysis by Mr. McKean and a discussion of work currently occurring at the facility.

The site inspection started at the southern end of the facility, and progressed to the northern end through the center of the landfill. The western and eastern sides of the landfill, respectively, were then inspected. No construction was occurring at the time of the site visit. CCR was being actively hauled to both the vertical expansion area near the center of the landfill and to the recent expansion, currently under construction, on the northeast end. Intermediate soil cover was also being applied to areas of the southeastern facing slopes.

This Annual Inspection Report fulfills the requirements of the CCR Rule for annual inspections of CCR landfills. Specifically, this report includes documentation of the annual inspection for the Residual Waste Landfill.

1.2 REGULATORY CROSS-REFERENCE TABLE

Table 1, below, is a regulatory cross-reference table that describes the federal regulatory requirement and the location in this document where this requirement is met.

Table 1 Federal Regulatory Requirement Cross-Reference Table

Federal Regulatory Requirement	Location in the Annual Report
§257.84(b) - Annual Inspections by a qualified professional engineer	
A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating report (§ 257.84(b)(1)(i))	Pages 3-4; Page 10
A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit (§ 257.84(b)(1)(ii))	Pages 5-9; Appendix A
§257.84(b)(2) – Inspection Report	
Any changes in geometry of the structure since the previous annual inspection (§ 257.84(b)(2)(i))	Page 3; Figure 2
The approximate volume of CCR contained in the unit at time of the inspection (§ 257.84(b)(2)(ii))	Page 3
Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR (§ 257.84(b)(2)(iii))	Pages 5-9; Appendix A
Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection (§ 257.84(b)(2)(iv))	Pages 5-9; Appendix A

2.0 GAVIN PLANT INFORMATION

2.1 FACILITY OVERVIEW

The General James M. Gavin Power Plant (Plant) is located in Gallia County, Ohio, just south of Cheshire, Ohio, and primarily west of State Route 7. The Plant property is adjacent to the north shoreline of the Ohio River. Nearby towns include Addison, Ohio, and Point Pleasant, West Virginia. The Gavin Residual Waste Landfill is owned and operated by Gavin Power, LLC. The landfill site is located northwest of the plant and is shown on Figure 1.

This facility is permitted by the Ohio Environmental Protection Agency (OEPA) to accept and dispose of CCR material as a Class 3 Landfill. Approximately 98% of this material is the Flue Gas Desulfurization (FGD) by-product (consisting of scrubber cake, fly ash and lime) and 2% other approved disposal materials (bottom ash, fly ash, lime ball mill rejects, coal pulverizer rejects, and bottom ash pond sediments).

In 1994, the existing facility was permitted with a capacity of 49 million cubic yards. In 2014, the landfill received a permit to expand horizontally and vertically, under permit to install (PTI) #06-08447. Under the PTI, the capacity will increase by 45.5 million cubic yards for a total of 94.5 million cubic yards. The landfill currently contains approximately 49.2 million cubic yards.

Construction under the PTI has been ongoing since 2016 and will proceed in phases until completion, which will be needed over the next several years. The landfill has already completed construction of leachate/ sedimentation Pond No. 5 and vertical flow wetlands associated with all three landfill pond outfalls. Since the last inspection, the landfill has been engaged in lateral expansion construction activities in the approximate areas shown on Figure 2.

As reported by Gavin Power, a liner system was installed in 2017 consisting of (from top down): geonet composite leachate collection/drainage layer or a 12" river gravel leachate collection layer; a 30-mil polyvinyl chloride (PVC) geomembrane; and a reinforced geosynthetic clay liner overlying a stable prepared subgrade. The surface of the exposed geonet composite was observed by ERM during the inspection. Also during the annual inspection walkthrough, an initial lift of FGD material was observed being spread over this leachate management layer and it was observed that no equipment was operating on or near the exposed geosynthetic components. FGD was observed

being placed in a general grid pattern across the area maintaining a typical separation of approximately 4 vertical feet between operating bulldozers and trucks and the exposed liner components.

2.2 *RESIDUAL WASTE LANDFILL OPERATIONS*

Midstate, Inc. is the current contractor for landfill operations. Daily operation and site maintenance activities include: construction activities for lateral expansion, hauling, and distributing CCR; and dredging accumulated solids from within settling ponds. These activities are documented on a daily log that is maintained by Gavin Power. Fugitive dust controls including watering, chemical suppressants, controlling the speed of construction vehicles, and cleaning paved roads are employed to control dust. Roads are maintained on a daily basis through the use of a motor grader/roller device that was observed in operation by ERM. Bottom ash is applied to the roadways as needed to maintain a smooth and stable surface for access.

Weekly and monthly inspections are conducted by Gavin Power. Observations that identify areas to be addressed are reported to Midstate, Inc., which also performs site maintenance. Site maintenance includes, but is not limited to, establishment of vegetation, repair of erosion and minor grading, maintenance of haul roads, cleaning of drainage channels and ponds, and other incidental site maintenance.

3.0 RESIDUAL WASTE LANDFILL INSPECTION

The annual inspection conducted for the Residual Waste Landfill is summarized below. Photographs referenced in this section are located in Appendix A. The approximate locations where the photographs were taken are shown on Figure 3. Qualitative terms used herein to describe the inspection are summarized in Appendix B.

Overall, the landfill, roads, and construction activities associated with the lateral expansion appeared to be in satisfactory condition and activities are progressing in general conformance with the PTI. ERM personnel did not observe evidence of obvious settlement, misalignment, significant erosion, tension cracks, or any other signs of possible instability, movement, or significant erosion along any of the slopes. ERM did not observe visual evidence indicating that water was impounding in the designated landfill area or along roadways.

3.1 HAUL AND ACCESS ROADS

The haul roads use bottom ash as a base course (as shown in Photographs 1, 3, and 4). The base course appears to compact well and holds up to repeated heavy equipment hauling. The haul roads observed by ERM appeared to be stable during the site drive/walk through and there was no visual evidence of significant distress (i.e., rutting or pumping). In addition, the roads generally had positive drainage from the centerline and there was no visual evidence of pooling water on the road surface. Stormwater runoff from adjacent slopes is caught by drainage channels running parallel to the roads, and directed to stabilized outlets at the surrounding site treatment ponds. Sporadic evidence of minor erosion in the channel bottoms was observed but overall roadside channels appeared to be well maintained.

There were several sections of more frequently used roads that have a gravel base course (as shown in Photographs 16 and 24). These roads also appeared to be stable with no visual evidence of distress. More frequently used roads had robust drainage channels adjacent to slopes that were positively graded and had rock check dams (Photograph 15). The drainage channels appeared well-maintained with no visual evidence of obstructions. The rock check dams were made from gravel and broken concrete (re-used from demolition on-site).

During the inspection along the eastern edge of the landfill, there was one infrequently utilized dirt access road observed. It appears this road is only

used by construction equipment. The lower end of the road has an installed water bar as shown in Photograph 22. The road was observed to have minor erosion occurring.

3.2 *SLOPES AND SLOPE COVER*

Approximately 70 percent of the slope surface area has received final cover, and 30 percent of the surface area has received intermediate cover. In general, intermediate cover consisted of a 6- to 12-inch-thick layer of soil. The western and northern slopes have received intermediate cover that will be impacted as portions of the lateral expansion are constructed and filled with CCR.

The areas with final cover included a reported minimum 3-foot-thick cap consisting of a 2-foot layer of barrier soil and a 1-foot layer of soil capable of supporting vegetation. The areas that had received final cover had well-established vegetation, as shown on Photographs 11 through 13, 15 through 17, 22, and 24. There were infrequent instances where vegetated erosion gullies were observed (Photograph 3); however, there was no visual evidence that erosion was a significant concern or that any observed vegetated gullies were expanding.

The facility has also performed direct seeding of FGD material; however, the establishment of vegetation in these areas has been only partially successful, but does aid as a temporary measure to control dust. In areas where establishment of vegetation via direct seeding of the FGD has been unsuccessful, the facility was observed to be in the process of applying a layer of soil to aid in the establishment of vegetation. The application of this soil layer can be seen in Photograph 1. Direct-seeded areas of FGD with poor vegetative growth can be seen in Photographs 1, 4, and 23. Despite the lack of vegetation in some direct-seeded FGD areas, erosion rills and gullies were observed to be minimal, which is evidence that Gavin Power has successfully controlled stormwater flow on graded slopes within the Residual Waste Landfill. In stormwater channels, Gavin Power has successfully utilized periodic check dams and outlet protection to reduce stormwater velocity and minimize the potential for erosion.

3.3 *SEDIMENTATION/LEACHATE PONDS*

Four pond units, labeled as Pond No. 1, 2, 3, and 5 currently operate to manage sediments, stormwater, and treat leachate generated by the Landfill. Pond No. 5 is the newest pond unit and is hydraulically connected to Pond No. 3. The discharge from each of these pond systems

consists of a treatment/settlement pond followed by a clarifying pond prior to discharge into a vertical flow wetland treatment system. The vertical flow wetland treatment systems were installed in 2016 and 2017 and have been designed to act as a filtration system to remove target pollutants (e.g., mercury) not completely removed by the preceding treatment processes. The effluent from the various vertical flow wetland systems is then discharged off-site in accordance with the facility's National Pollutant Discharge Elimination System permit.

The sedimentation/treatment portion of Ponds 1, 2, and 3 were observed to have varying amounts of solids within their limits, as shown in Photographs 31, 37 and 38. The clarifying portion of Pond 3 was also observed to have a minor amount of sedimentation seen in Photograph 39. These ponds are routinely cleaned of accumulated solids through draining and removal of sediments with low ground contact pressure equipment or while still containing water through use of extended-reach excavators or use of a floating dredge. ERM observed dredging activities in Pond 2 during the site inspection; dredging activities are shown in Photographs 30 and 31.

The dredged material from the pond cleaning is typically pumped into dewatering bags located within a geomembrane-lined containment area. When a bag is filled, the bag is opened, the contents are removed, and the collected material is disposed in the landfill. An active dewatering bag observed during inspection is shown on Photograph 33.

At Pond 1, the filter bags are located adjacent to and slightly northwest of the pond system at an elevation higher than the pond. The filter bags receive the dredged material and retain the particulate matter while allowing water to filter through and return to the pond. The water is directed back to the pond through a bermed, geomembrane-lined area that positively drains toward a fabriform-lined (i.e., concrete filled geotextile) channel. While ERM was on site, a manufacturer's seam on one of the geotextile filter bags opened allowing the retained sediments to flow out onto the geomembrane containment area. This material followed the drainage path to the fabriform channel and returned to Pond 1. ERM observed the landfill operator actively respond to the situation by flushing the solid materials on the containment geomembrane and fabriform channel back into Pond 1 to be reprocessed. As shown in Photograph 34, the sediments were contained by the berms and channel, and did not leave the CCR unit. The situation illustrated that the containment area functioned as designed and was being well-managed by Gavin Power and their contractor, Midstate, Inc. An inquiry of Gavin Power and Midstate staff indicated this is the only time to their knowledge that a filter bag had opened at a seam.

At Pond 2, to assist with the removal of FGD solids coming from the stack out pad and to minimize what has to be dredged, Gavin Power operates a concrete settling basin. This basin is routinely cleaned with an extended-reach excavator. This process was observed by ERM and the facility is shown in Photograph 35. Within the sedimentation/treatment portion of Pond 2, it was noted that some rock from maintenance and grading operations on the adjacent western roadway were present on the geomembrane liner system.

At Ponds 3 and 5, it was observed during the inspection that geomembrane installation between these ponds was in progress. This work was continued and completed in November 2017. The repair/tie -in area is indicated by the white protective cover seen in Photographs 38 and 40. Removal of solids within Pond 3 had been suspended during the completion of construction work. Solids removal from Pond 3 is scheduled to resume in the immediate future.

Overall, the clarifying portion of the pond systems, and the associated vertical flow wetland systems, were largely clear of debris and/or sediment buildup. This is shown on Photographs 26, 27, 28, 31, and 37 through 41. The various outlet structures for the ponds and vertical flow wetlands were also observed to be largely clear of sedimentation and debris as shown on Photographs 25, 26, 28, 29, 36, and 39.

3.4 OPERATION

Daily landfill operation is conducted and managed by Midstate, Inc. and overseen by Gavin Power. During the time of the inspection, construction operations were occurring within the limits of the vertical expansion near the center of the facility and the protective cover lift of FGD was being placed in the lateral expansion area on the north side of the facility. As required by the PTI approved by OEPA, Gavin Power maintains daily logs of operations and performs daily inspections of the landfill.

Photograph 2 shows operating conditions at the FGD stack out pad during ERM's visit. It appeared during the inspection that FGD material at the stack-out pad was being satisfactorily handled and contained on the pad. It was observed that large haul trucks are filled by an end loader and then directed to the designated placement location for the day. This material appeared to be primarily going to the lateral expansion while pond cleanings and limited truckloads of FGD material were being placed within the vertical expansion area.

In the vicinity of the vertical expansion, FGD material had been placed in a lift and pond cleanings were being placed within this excavated area. Photographs 5 and 6 show the placement of the CCR material at this location. At the time of ERM's inspection, CCR material placement was being conducted in a satisfactory manner. A series of chimney drains (typical chimney drain shown in Photograph 7) were observed within the vertical expansion area to assist in draining excess surface water and collect potential future leachate as the landfill continues expanding upward. CCR material containing a higher moisture content (e.g., pond cleanings and lime) was being placed within stable excavated areas of FGD away from outer slopes for mixing with dry materials shown in Photograph 9. The contractor also maintained a stockpile of construction materials including pipe, gravel, and geotextile separation fabric within a storage area on an inactive area of the landfill to use for incremental construction activity as shown in Photograph 10.

Within the lateral expansion, the layer of CCR material was being placed to complete construction activities in advance of winter conditions. Fine-grained FGD was observed being placed in a thick initial lift on a grid pattern, following commonly accepted liner system protection procedures, and in general conformance with PTI Drawing 4F. This procedure promotes avoidance of large or sharp materials near the geosynthetic components, eliminates point loads from construction and hauling equipment during initial lift placement, and avoids concentration of forces and wrinkling of the liner system through spreading of the material in multiple directions. A view of the lateral expansion currently under construction is shown in Photographs 12, 13, 14, and 19.

Additional area for the next stage of lateral expansion is to be seeded along the western edge of the facility. This area is shown on Photograph 14.

The limits of completed lateral expansion liner system and lateral expansion currently under construction are shown on Figure 2. Construction of the lateral expansion was monitored by Terracon, a third-party geotechnical and testing firm. A separate report is being prepared by Terracon for certification of the construction.

4.0 *REVIEW OF CCR OPERATING RECORD DOCUMENTS AND 2016 INSPECTION*

As required by CFR §257.84(b)(1)(i), a review of operating records regarding the status and condition of the CCR unit would include the results of inspections by a qualified person and results of previous annual inspections. The following documents were reviewed as part of the CCR operating record:

- 2016 Landfill Annual Inspection Report, dated November 21, 2016
- Seven-day inspection checklists for Gavin Plant Residual Waste Landfill;
- Thirty-day Inspection/Instrumentation Recording Reports for Gavin Plant Residual Waste Landfill;
- Gavin Plant Residual Waste Landfill Closure Plan, dated October, 2016;
- Gavin Residual Waste Landfill PTI Alteration Request, dated October 13, 2014;
- 2017 OEPA Solid Waste Facility License, processed December 13, 2016; and
- Stability and Settlement Analysis Report Ohio Administrative Code 3745-30-05 (C)(5), dated November 2, 2012.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 ADDRESSING 2016 INSPECTION ITEMS

ERM reviewed photographs and inspection items from 2016. Inspection items included: placing of the final cap where final grades have been reached as required by OEPA, mulching unvegetated areas to attain established vegetation, repair erosion areas noted at the permanent capped areas, seeding and mulching, and continued removal of sediments from all ponds on an as-needed basis. Based on the 2017 annual inspection and a review of weekly and monthly inspection reports, the above-mentioned repair items from the 2016 annual inspection were completed. The plant has consistently addressed items requiring attention that were identified in the weekly and monthly inspection reports as quickly as possible.

5.2 RECOMMENDATIONS FOR 2017

The following recommendations are listed below:

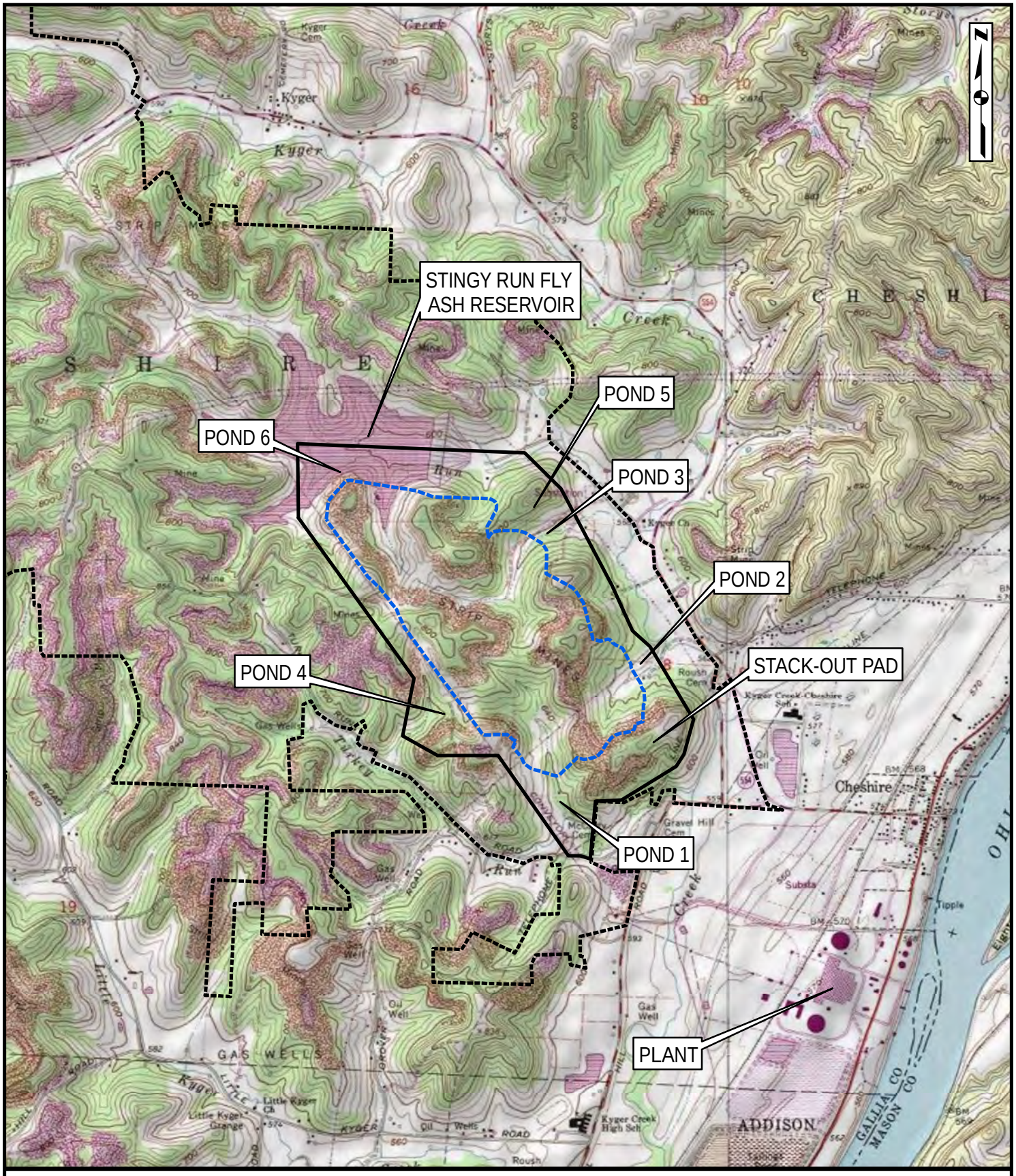
1. The weekly and monthly inspections continue to point out any deficiencies and these deficiencies are documented and addressed in a timely fashion. It is recommended that the plant continue this good management practice.
2. Complete placement of intermediate soil cover, seed, and mulch on areas of direct FGD seeding where poor vegetative growth has been experienced. Soil pH and nutrient tests are recommended to target appropriate amounts of lime and fertilizer application to accomplish successful vegetative growth while minimizing the potential for over application.
3. Seed and fertilize localized bare spots along completed slopes to aid in the re-vegetation process. Add soil amendments and lime as needed.
4. Continue to repair erosion gullies and rills as they are encountered. Continue to monitor areas where rills or gullies have formed.
5. The beneficial reuse of the demolished material (i.e., clean concrete) as a temporary erosion and sediment control within the facility's stormwater management system is encouraged. Supplement these materials with manufactured aggregate and materials as appropriate to enhance performance.
6. The infrequently used dirt access road on the eastern side of the landfill should be tracked and seeded, and eroded material removed from the downgradient channel.

7. Large gravel material observed along the length of the geomembrane liner on the west side of Pond 2 should be removed and a means of preventing this material from continuing to fall onto the liner system identified and implemented.
8. With completion of the work at Ponds 3 and 5, resume solids removal from Pond 3 and re-establish satisfactory access around the perimeter of the pond.
9. Consult with the filter bag manufacturer regarding the isolated seam issue experienced at Pond 1 and determine if improvements or operational considerations for future filter bags are necessary.
10. To minimize hauling and associated costs and provide opportunity for beneficial reuse, it is recommended that as the northern lateral expansion is filled the existing soil cover on the north facing slope of the existing landfill be removed and stockpiled for reuse as cover.

5.3 CONCLUSIONS

The annual visual inspection and document review revealed that the landfill is in satisfactory operating condition. ERM observed that the lateral expansion is being completed in a satisfactory manner and appropriate measures for the protection of the liner system are being implemented during this process. The facility exhibited satisfactory housekeeping measures. Operators were observed to be performing satisfactory maintenance operations. Recommendations made above are not critical to the current stability or the safe operation of the landfill.

Figures



Permitted Residual Waste Landfill Boundary

Permitted Facility Boundary

Gavin Power LLC Property Boundary

0 0.15 0.3 0.45 0.6 Miles

1:30,000

Figure 1: Site Location Map

Gavin Power LLC

Cheshire, Ohio

ERM

SOURCE: USGS scanned topographic quad maps provided by National Geographic Society (© 2017).

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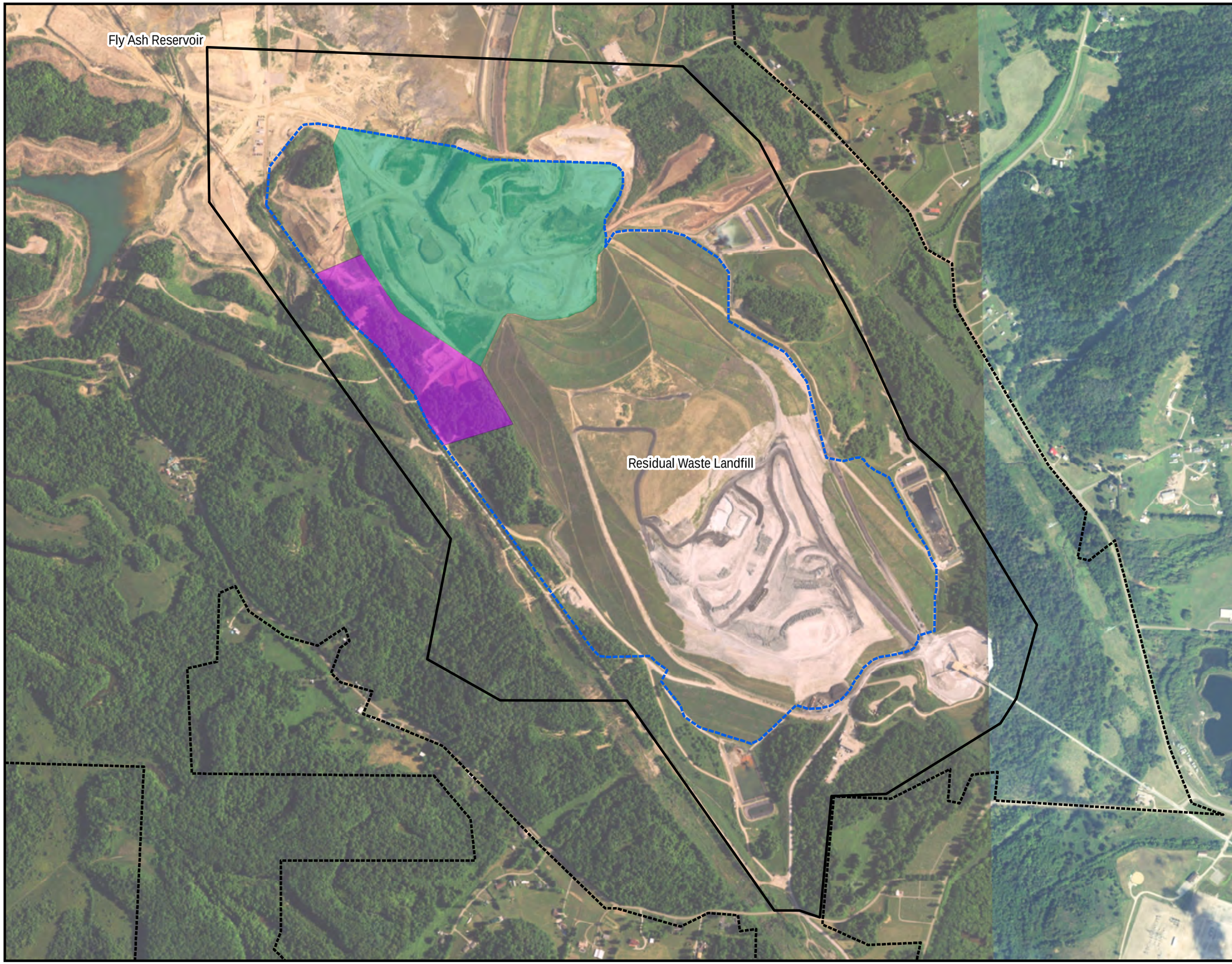

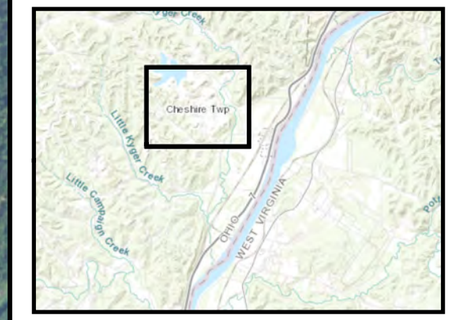

Legend

- Area of current grading and excavation for lateral expansion (approximate)
- Approximate area where bottom liner membrane has been placed and leachate layer is being placed in localized areas
- Permitted Limit of Waste
- Permitted Facility Boundary
- Gavin Power LLC Property Boundary

NOTES:
1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.4

N

0 175 350 700 1,050 1,400
Feet

Figure 2: Current Progress
Residual Waste Landfill
Gavin Power LLC
Cheshire, Ohio

ERM

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Legend

Photograph Location

NOTES:
1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
   Reproduced under license in ArcGIS 10.4

N

0 150 300 600 900 1,200
Feet

Figure 3: Visual Inspection Map
Residual Waste Landfill
Gavin Power LLC
Cheshire, Ohio

ERM

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Appendix A
Annual Inspection Photographs

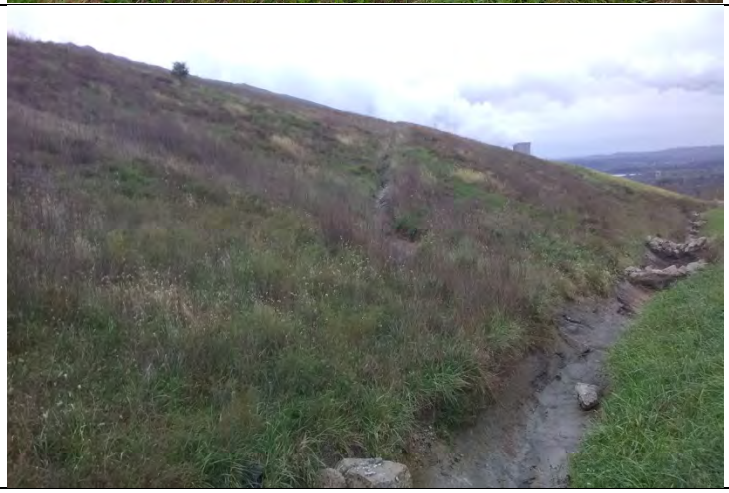
Residual Waste Landfill

Photograph #1 View of SE facing slope condition adjacent to stack out pad and haul road (looking northwest). *Direct seeded FGD having layer of intermediate soil cover applied.*	
Photograph #2 View of FGD stack out pad operations (looking southwest).	
Photograph #3 View of south facing slope along haul road with minor vegetated gully noted in intermediate cover (looking north).	

Photograph #4 View of SW access haul road to vertical expansion area (looking south).	
Photograph #5 View of active filling operations within vertical expansion area near center of landfill. *FGD and pond cleanings being placed (looking south).*	
Photograph #6 View of placement of Pond Cleanings within excavated portion of FGD in vertical expansion area (looking south).	

Photograph #7 View of typical chimney drain near top of landfill within vertical expansion area (looking north).	
Photograph #8 View of vertical expansion area and soil cover stockpile (looking north).	
Photograph #9 View of lime and high moisture content CCR placement within vertical expansion area (looking east). *Material mixed with drier CCR and placed within landfill away from slopes.*	

Photograph #10 View of construction material stockpiles including geotextile fabric, pipe and granular drainage media (looking east). *Located on inactive portion of vertical expansion area.*	
Photograph #11 View of northern slope (looking northeast). *The edge of the lateral expansion area can be seen in center left of photo.*	
Photograph #12 View of northern slope and lateral expansion area of landfill (looking north). *Lift of FGD being placed in general grid pattern as protective cover for liner system.*	

Photograph #13 View of the northern slope of landfill and western edge of lateral expansion (looking northwest).	
Photograph #14 View of the northwest edge of landfill and western lateral expansion (looking west). *Next stage of construction about to be seeded.*	
Photograph #15 View of western slope and typical bench drainage from slope (looking south).	

Photograph #16 View of haul road and drainage ditch on western slope with rock check dams (looking north).	
Photograph #17 View of western slope and lateral expansion to west of existing landfill (looking west). *Next stage of construction to be completed in the future.*	
Photograph #18 View of eastern rock fill slope of landfill lateral expansion. (Looking east). *Stingy Run Fly Ash Dam is in center of photo.*	

Photograph #19 View of lateral expansion from eastern perimeter access road (looking northwest).	
Photograph #20 View of chimney drain within lateral expansion (looking west).	
Photograph #21 Spreading of CCR across liner system within lateral expansion (looking south). *Large haul trucks can be seen staying on top of thick layer of FGD to avoid point loads.*	

Photograph #22 View of eastern slope and dirt equipment access road (looking southwest). *Moderate erosion observed and sedimentation in roadside channel.*	
Photograph #23 View of eastern slope with localized bare spots/sporadic vegetation (looking northwest).	
Photograph #24 View of access road to Pond 2 with roadside ditch (looking south).	

Pond No. 1

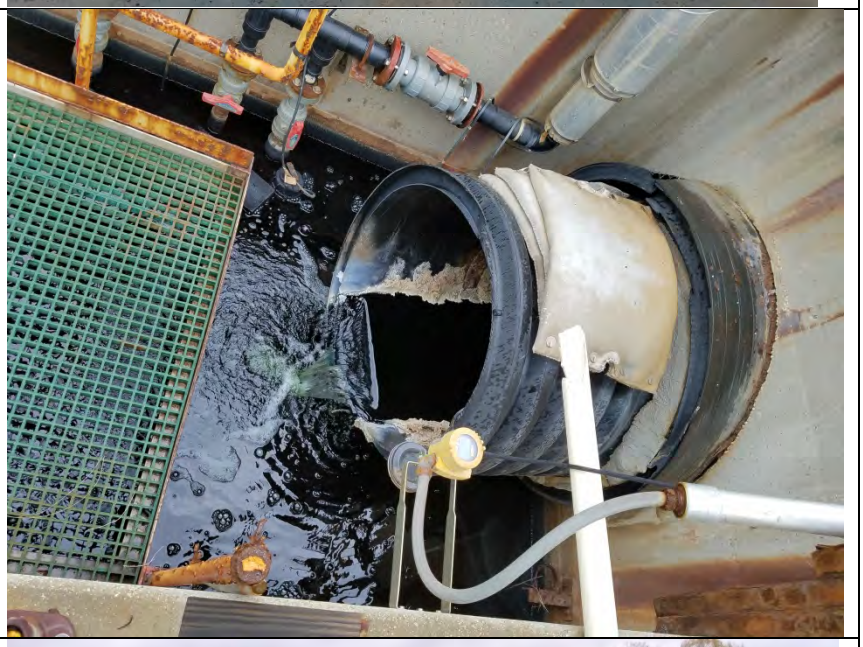
Photograph #25 View of inlet structures for Pond No. 1 vertical flow wetland.	
Photograph #26 View of inlet pipes for Pond No. 1 vertical flow wetland (looking south).	
Photograph #27 View of outlet pipes for Pond No. 1 vertical flow wetland (looking west).	

Photograph #28 View of inlet pipes for vertical flow wetland treatment adjacent to Pond No. 1 (looking south).	
Photograph #29 Outlet for vertical flow wetland at Pond No. 1 (looking east)	
Photograph #30 View of slope and Pond No. 1 (looking southwest).	

Photograph #31 View of Pond No. 1 and southwest slope into pond (looking southwest).	
Photograph #32 View of outlet pipes and Pond No. 1 (looking north).	
Photograph #33 View of dewatering bag for collected sludge (looking east).	

Photograph #34	
View of slope and dewatering bag (looking south).	

Pond No. 2

Photograph #35 Dredging of sludge from settling basin adjacent to Pond No. 2.	
Photograph #36 View of leachate inlet for Pond No. 2.	
Photograph #37 View of northern banks of Pond No. 2 (looking northeast).	

Pond No. 3

Photograph #38 View of slope and Pond No. 3 and No. 5 (looking northeast).	
Photograph #39 View of adjacent settling basin to Pond No. 3 and bank into pond (looking north).	
Photograph #40 View of southern and eastern banks on Pond No. 3 (looking southeast).	

Photograph #41 View of eastern basin of constructed vertical flow wetland for Pond No. 3. (looking southeast)	

Appendix B
Summary of Qualitative Inspection Terms

1.0 SUMMARY OF QUALITATIVE VISUAL INSPECTION TERMS

The terms described below are used to describe the overall condition and/or appearance of an observed embankment, structure, activity, or item. These terms are intended to give an overall qualitative judgment of the particular item. Please note, some of the terms described below were not used in this year's inspection, but are included as a comparative reference.

Good: A condition or activity that is generally better or slightly better than what would be minimally expected or anticipated from a stability, maintenance, or design viewpoint.

Satisfactory: A condition or activity that is meets what would be minimally anticipated or expected from a stability, maintenance, or design viewpoint.

Poor: A condition or activity that does not meet what would be minimally anticipated or expected from a stability, maintenance, or design viewport. If a rating of "poor" is assigned, then corrective action is required in as timely a manner as possible.

Minor: A reference to an item or activity where the current maintenance condition is below what is normally desired, but does not cause concern from a stability of safety viewpoint. Generally, these conditions would be identified and could be remedied through the normal maintenance process.

Significant: A reference to an item or activity which would impact the stability or daily operating conditions of the CCR unit. Generally, significant features develop over time and would likely be a result of maintenance not occurring when minor deficiencies were first noted. If left unchecked, such conditions could eventually be a concern for the stability and safety of the CCR unit.

Excessive: A reference to an item or activity that is much worse than what is normal or desired and is of immediate concern to the stability or safety of the CCR unit. Such a condition may also impact the ability of the inspector to properly evaluate the particular item or area.

Appendix C
Professional Engineer Certification

1.0 *PROFESSIONAL ENGINEER CERTIFICATION*

I hereby certify that I or an agent under my review has prepared this Annual Inspection Report for the Residual Waste Landfill, and familiar with the provisions of the final rule to regulate the disposal of coal combustion residuals (CCR). I attest that this Report has been prepared in accordance with good engineering practices and meets the intent of 40 CFR 257.84. To the best of my knowledge, the information contained in this Report is true, complete, and accurate.

James A. Hemme, P.E.
State of Ohio License No.: 72851

STATE OF OHIO
JAMES HEMME
72851
01/08/18
REGISTERED
PROFESSIONAL ENGINEER

Date: 01/08/2018