2024 Annual Inspection Report

Residual Waste Landfill

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
BMPs	Best Management Practices
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
Charah	Charah Solutions, Inc.
ERM	Environmental Resources Management, Inc.
FGD	Flue Gas Desulfurization
FAR	Fly Ash Reservoir
HDPE	High-Density Polyethylene
OEPA	Ohio Environmental Protection Agency
Plant	Gavin Power Plant
PTI	Permit to install
RWL	Residual Waste Landfill

1. INTRODUCTION

The Residual Waste Landfill (RWL) at the Gavin Power Plant (Plant) in Cheshire, Ohio, is subject to the Code of Federal Regulations (CFR) Title 40, Part 257, Subpart D, "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," commonly referred to as the Coal Combustion Residuals (CCR) Rule. The CCR Rule requires an annual inspection and reporting for operating CCR landfills. In addition, any lateral expansion of the CCR unit that occurs between annual inspection reports must be examined and included in the subsequent annual inspection report.

This Annual Inspection Report of the RWL has been prepared by Environmental Resources Management, Inc. (ERM) to comply with the requirements of the CCR Rule, 40 CFR § 257.84.

1.1 SUMMARY OF CONDITIONS OF ANNUAL INSPECTION

The annual inspection of the RWL was performed by Mr. James Hemme, P. E., the certifying Professional Engineer in the State of Ohio and Mr. Tanner McCallister, E.I.T., of ERM. Mr. Richard Fuller, Landfill Process Owner at Gavin Power, is the facility contact and supported the inspection activities. Other members of the Gavin Power team, including their contractors, assisted with logistics and provided data for the completion of the inspection and report. In addition, the weekly inspections required by 40 CFR § 257.84(a) were completed on the leachate collection/treatment ponds and on the residual waste landfill by Mr. Richard Fuller.

The annual inspection for the RWL was performed on 29 October 2024. Weather consisted of clear skies, mostly sunny, light wind, and temperatures ranging from 62 degrees Fahrenheit to 77 degrees Fahrenheit.

The inspection route started at the southern end of the RWL at Pond 1 and associated vertical flow wetlands, then proceeded to the center of the RWL to the peak of Phase F2 and J areas, and then east towards Pond 2 and passing by stack-out pad operations. Following Pond 2, the inspection route proceeded north towards the Pond 3 and Pond 5 areas, which included their respective vertical flow wetlands. The inspection route proceeded north to observe Phases H and I and ended at Pond 6.

The Phase I protective cover area was completed on Phases H and I in June 2022 and was certified by the Ohio Environmental Protection Agency (OEPA) in a report dated 13 September 2022. The OEPA provided operational approval for the two active phases (Phases H and I) on 16 September 2022. At the time of the 2024 inspection, flue gas desulfurization (FGD) material was continuing to be placed over the liner system in Phases H and I. Phases H and I of the landfill increased in elevation from the placement of FGD since the 2023 inspection. Maintenance activities near the ponds and on the roadways were observed as documented in this report. Please refer to **Figure 1** for a map of the site locations and **Figure 2** for the current progress of the expansion of the RWL.

1.2 REGULATORY CROSS-REFERENCE TABLE

In compliance with 40 CFR § 257.84(b)(1), this inspection and inspection report for the RWL were completed by James Hemme, a qualified Professional Engineer in the State of Ohio. **Table 1**, below, is a regulatory cross-reference table that describes the inspection requirements and the respective locations in this report demonstrating compliance to each requirement.

TABLE 1 FEDERAL REGULATORY REQUIREMENT CROSS-REFERENCE TABLE

Federal Regulatory Requirement Summary	Location in the Annual Report
§ 257.84(b)—Annual inspections by a qualified professional engineer	Sections 1.1 and 1.2
§ 257.84(b)(1)(i)—A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections)	Section 4
§ 257.84(b)(1)(ii)—A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit	Section 3
§ 257.84(b)(2)(i)—Any changes in geometry of the structure since the previous annual inspection	Section 3
§ 257.84(b)(2)(ii)—The approximate volume of CCR contained in the unit at time of the inspection	Section 2.1
§ 257.84(b)(2)(iii)—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	Section 3; Appendix A
§ 257.84(b)(2)(iv)—Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection	Section 5.3; Appendix A

2. GAVIN PLANT INFORMATION

2.1 FACILITY OVERVIEW

The Gavin Power Plant is located in Gallia County, Ohio, immediately south of Cheshire, Ohio, and adjacent to State Route 7. The Plant is also adjacent to the western shoreline of the Ohio River. Nearby towns include Addison, Ohio, and Point Pleasant, West Virginia. The RWL is located northwest of the Plant, as depicted on **Figure 1**; the currently permitted waste boundaries are also indicated on this figure.

The RWL is permitted by the OEPA to accept and dispose of CCR material in accordance with Ohio Administrative Code 3745-30. Typically, approximately 98 percent of this material is FGD by-product (consisting of scrubber cake, fly ash, and lime) while the remaining 2 percent consists of other approved disposal materials (water treatment sludge, bottom ash, lime ball mill rejects, coal pulverizer rejects, and sand/moss mixture from the vertical flow wetlands).

In 1994, the RWL was permitted for a capacity of 49 million cubic yards. In 2014, the RWL was authorized to expand horizontally and vertically, under Permit-to-Install (PTI) #06-08447, increasing the capacity of the RWL by 45.5 million cubic yards to a total of 94.5 million cubic yards. The facility reports an estimated disposal volume of 1.56 million cubic yards (1.98 million tons) of CCR during 2024. Including the added volume from 2024, the RWL currently contains approximately 66.1 million cubic yards of CCR up from 64.5 million cubic yards of CCR in 2023.

Construction related to the expansion has been ongoing since 2016. Since 2016, construction of the leachate/sedimentation Pond 5 and vertical flow wetlands associated with the landfill pond outfalls for Ponds 1, 2 and 3 has been completed. In January of 2019, the Plant received approval from OEPA to construct Phase I of the RWL prior to Phase G. Bulk excavation and liner construction activities were observed during the 2019, 2020, 2021 and 2022 inspections. Since the 2023 inspection, lateral expansion construction activities for Phase I were completed including placement of protective cover. Phase H and I were used for placement of FGD from the power station. The locations of these phases are depicted on **Figure 2**.

Since the inspection in 2023, Phase H and I, located in the northern sector of the landfill, have continued being filled uniformly with FGD. During the 2024 inspection, FGD was continuing to be placed in sequential lifts. At the time of the inspection, FGD placement was near the center of the combined Phase H and I areas (Photograph 1). The active surface of the FGD material was observed to be mildly sloped (estimated at 1 to 2%) and appeared to be maintaining positive drainage for surface-water run-off to vertical chimney drains.

The liner system utilized in Phase H and Phase I consists of the following layers in descending order:

- A minimum top protective layer of 30” of FGD to protect the leachate collection layer;
- A geonet composite leachate collection/drainage layer on the slopes, and a 12-inch thick rounded gravel leachate collection layer on flatter sections around the leachate collection piping;

- A 30-mil polyvinyl chloride geomembrane; and
- A reinforced geosynthetic clay liner overlying a prepared soil subgrade consisting of native soil materials including a top 6” minimum of “select subgrade” clay cushion layer.

During the 2024 annual inspection the eastern face of Phase H was being formed to conform with the permit grading plan. This area has been filled to approximately the level of the second final cover bench. Approximately 6 to 12 inches of soil cover has been applied, seeded, and mulched over a portion of this area as a temporary cap (Photograph 2).

2.2 RESIDUAL WASTE LANDFILL OPERATIONS

Charah Solutions of Louisville, Kentucky (Charah) is the current contractor to conduct daily operations at the RWL, operating since 2017 with oversight by Gavin Power. Daily operation and site maintenance activities include hauling and distributing CCR, dredging accumulated solids from within the settling ponds and channels, placing cover material, and maintaining vegetation. These activities are documented on a daily log that is maintained by Gavin Power. Fugitive dust controls for the landfill operations are implemented based on current site conditions. Emissions are controlled by maintaining moisture in the material and minimizing drop height during placement. After placement, fugitive dust emissions are controlled by spreading and compacting material and watering as needed. Fugitive dust emissions due to wind erosion in open areas includes placing cover and seeding, maintaining moisture content of the materials, and watering as needed. Dust emissions from roadways are controlled by watering as needed (Photograph 3), addition of a chemical suppressant, and speed control measures. On-site unpaved haul roads are maintained on a daily basis through the use of motor grader/roller equipment. Access roadways are maintained with a combination of imported aggregate (e.g. limestone) and bottom ash generated at the plant (applied only to roadways within the limits of the landfill). Gavin Power conducts weekly inspections and reports any deficiencies to Charah to address and repair.

3. RESIDUAL WASTE LANDFILL VISUAL INSPECTION

The 2024 annual visual inspection conducted for the RWL on 29 October 2024 is summarized below. Photographs referenced herein are located in **Appendix A**. The approximate locations where the photographs were taken are indicated in **Figure 3**. Qualitative terms used herein to describe the inspection are summarized in **Appendix B**.

Overall, the RWL was observed to be in satisfactory condition (as defined in **Appendix B**). This includes the roads and other maintained infrastructure and lateral expansion areas to the extent they were observable. Landfill development and construction activities are progressing in general conformance with the 2012 Final Permit-To-Install Application, Expansion of the Gavin Plant Residual Waste Landfill, Section C.8. ERM personnel did not observe evidence of obvious settlement, misalignment, significant erosion, tension cracks, or other signs of possible instability, movement, or significant erosion along the slopes. ERM did not observe visual evidence indicating that storm water was impounding in the designated RWL area with the exception of small sedimentation collection traps or sediment sumps along roadways. Since the 2023 annual inspection, Phase H and adjacent portions of Phase I have been the predominant location for placement of CCR for the duration of 2024. Changes in the geometry of the RWL were observed during the inspection as a result of continued operation and receipt of FGD within Phases H and I and from grading for purposes of placing intermediate or final soil cover at multiple locations. Since the 2023 inspection, ERM observed that grading of interim slopes in Phases F2 and J has continued. Slopes where direct seeding of FGD had been previously attempted have been mostly covered with soil and revegetated. FGD placement within the lateral expansion areas (Phases H and I) has continued upward and has reached a level ranging from 80 feet above the access road on the southeastern edge of Phase H to 20 feet above the road at the northernmost point of Phase I (Photograph 4). The southernmost portion of the east facing slope of Phase H has been graded to its final configuration and final soil cover and vegetation established or seeding applied from the access road up to the level of the third stormwater bench (Photographs 2 and 5). As Phase H has increased in elevation from the placement of FGD, intermediate cover soils at the northern interface slope of Phases F2/J with Phase H were observed to have been removed incrementally for reuse. At the time of the 2024 inspection the entirety of this intermediate cover has been removed and Phase H FGD is being fully overlaid on top of the northern slope of Phases F2 and J (Photograph 6).

On the eastern side of the landfill above Pond 2 along the main haul road, three leachate seeps were observed, one of which has been noted in previous annual inspections (Photograph 7). Leachate from these seeps is being managed through runoff channels located over the RWL liner system (Photograph 8) down to the concrete headworks for Pond 2. Conversations with RWL staff indicate a plan has been developed to capture and redirect this leachate back into the residual material and eliminate it from the surface. This plan is scheduled for implementation in 2025.

3.1 HAUL AND ACCESS ROADS

The haul roads in active areas of CCR placement use bottom ash as a base course (as observed in Photographs 9 through 13). This base course compacts well and withstands repeated heavy equipment traffic based on experience. The haul roads observed by ERM appeared to be stable

during the site drive/walkthrough, and there was no visual evidence of significant distress (i.e., rutting or pumping). The roads had positive drainage from the centerline or were sloped to an adjacent drainage channel and there was no visible evidence of ponding water on the roadway surface. Drainage channels paralleling the roadways also captured storm water runoff from adjacent slopes, which is directed to stable outlets that ultimately discharge to the multiple surrounding site treatment ponds. As noted in previous inspections, ERM observed sporadic evidence of erosion in the channel bottoms or at the connection point/confluence of drainage berms that collect water from the landfill side slopes to the channels. Rock check dams were observed as best management practices (BMPs) for stormwater deceleration and were located at regular intervals within the constructed channels to slow runoff rates and to capture sediments. Overall, roadside channels appeared satisfactorily maintained. During the 2024 inspection, ERM observed that substantial maintenance has been conducted on roadside channels. Sediment build-up behind the rock check dams in the roadside channels seemed to have been recently cleaned at various locations, and the channel along the eastern haul road was being actively cleaned during the site visit (Photograph 14). Channels are inspected on a biweekly basis as part of the routine maintenance and deficiencies are addressed and repaired as needed.

There were several sections of permanent roads that have a limestone gravel base course, as depicted in Photographs 15 and 16. These roads also were observed to be stable with no visible evidence of distress. More frequently used roadways incorporate robust drainage channels adjacent to slopes, which were positively graded and included rock check dams (Photograph 11).

Following the 2023 annual inspection recommendations, Gavin continued to install additional rock check dams to help reduce rilling into the underlying FGD material. Visible improvements were seen during the 2024 annual inspection, such as the channel on the south side of the RWL (Photograph 17). ERM further recommends that individual areas continue to be repaired and monitored in accordance with the ongoing maintenance program. If issues persist, increasing the number of rock check dams to reduce channel flow velocities and adding supplemental riprap reinforcement should be considered and installed as needed. ERM also recommends continued maintenance of the sediment traps below areas where erosion has been noted.

In 2023 near the top (north end) of the western access road, a section of the roadside drainage channel was observed to be incised with vertical walls of 2 to 3 feet and total depth of 6 feet in an isolated area. These areas were observed in 2024 to have eliminated the excessively deep channel sections along the inside edge of the roadway. FGD material was utilized to fill the bulk of the incising, the channel shape was reestablished through covering with soil or gravel, and rock check dams were installed (Photograph 18). Several of the reinstalled check dams were showing signs of sediment buildup and should continue to be cleaned and maintained as necessary. At approximately the halfway point to the top of the landfill a cross culvert was observed to show signs of sedimentation on the western outlet end that was partially plugging the flow of stormwater on the drainage bench (Photograph 19). This area had already been identified for maintenance by the facility and is slated for maintenance in the near future.

3.2 SLOPES AND SLOPE COVER

Approximately 95 percent of the currently inactive landfill slope surface area appears to have thriving, stable vegetation, and 5 percent of the surface area is either in the process of stabilization/revegetation (former CCR direct seed areas) or was observed to have been recently seeded and mulched. The slopes near the summit of Phase F2 and J were notably more vegetated compared to conditions in 2023. Placement of intermediate soil cover of 6 to 12 inches and seeding appears to be successful in stabilizing the interim slopes. The western and northern slopes have received intermediate cover that is well vegetated (Photograph 20). As portions of lateral expansions are constructed and filled with CCR, this intermediate cover of soil will be removed and reused for cover in other areas of the landfill like what was successfully performed on the north slope adjacent to Phase H, as noted in previous annual inspection reports.

There were no visual observations of structural weakness within the RWL (e.g., slips, soil tension cracks, sinkholes) noted during the annual inspection. No indications of residual waste movement that might alter the geometry of finished slopes or overall stability of the RWL were identified.

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 (Photograph 20). The areas that have received final cover exhibited well-established vegetation. Recently capped areas on the eastern face of Phase H were showing indications of robust vegetation being established and the northeast edge of Phase H had recently been graded, soil capped, seeded and rolled erosion mat deployed to assist with seed germination and erosion protection.

An alternate cap system was installed in 2024 over 5.5 acres of the landfill, including the northern slopes of Phase H (Photograph 21). The alternate cap on the side slopes is composed of three layers:

- A geomembrane to prevent infiltration into the waste;
- A double-sided geocomposite on top of the geomembrane to cushion and protect the geomembrane while collecting and draining away any surface infiltration; and
- A protective cover soil layer to reduce infiltration and support vegetative growth to prevent erosion and promote evapotranspiration.

The alternate cap on the flatter surfaces along the top of the landfill have similar geomembrane and protective soil layers, with a middle layer composed of a geotextile to cushion and support the geomembrane.

There was a single area along a portion of the southern RWL slope where minor erosion rills were observed (Photograph 22) in the surface of the intermediate cover. Sedimentation was fully contained in this area and directed towards Pond 1. There was no visible evidence that this isolated area of erosion has the potential to disrupt the operation and safety of the RWL or that observed erosion features were creating an unstable condition. ERM recommends that this minor erosion area be repaired and reseeded in the Spring of 2025. In the interim, to the extent practical, upslope run-on should be minimized in these areas through common industry standard maintenance practices such as reworking the area with temporary seeding or through run-off diversion to prevent water from flowing over the top of slope.

The RWL has been successful in elimination of most direct seeded FGD areas with only a few isolated areas remaining. ERM understands that these remaining areas will continue to be covered incrementally with an intermediate layer of soil to aid in the establishment of vegetation. The application of this intermediate soil layer as slopes are completed or meet their interim grades is depicted in Photographs 13 and 23.

In stormwater channels, the Gavin Power Plant team has successfully utilized BMPs such as riprap, periodic rock check dams, and outlet protection to reduce storm water velocity and minimize the potential for erosion. There are isolated instances where sedimentation has filled the voids of placed riprap, which is maintained as needed to minimize sediments reaching the ponds. The presence of erosion rills and gullies has noticeably declined in comparison to the 2023 annual inspection. The overall stability of the cover, good vegetative practices, and proper functioning BMPs of the storm water channels provide evidence that the Gavin Power Plant team is successfully controlling storm water flow on graded slopes within the RWL.

At the summit of the RWL in the center of vertical Phase F2 expansion, an interim elevation of approximately 965 feet has been reached. The fill will remain at that elevation until FGD fill in adjacent constructed cells achieves an approximate equivalent elevation. Surface water at the summit of Phase F2 is managed by chimney drains (Photograph 24) that are connected and flow to the leachate collection system at the bottom of the landfill.

3.3 SEDIMENTATION/LEACHATE PONDS

Five pond units, specifically Ponds 1, 2, 3, 5, and 6, currently manage sedimentation and storm water and treat leachate generated by the RWL.

Pond 1 is located in the southern end of the RWL and is the oldest treatment pond at the facility. It consists of a primary treatment pond and clarifying pond. The clarifying pond discharges into an associated duplex vertical flow wetland treatment system.

Pond 2 is located on the southeast portion of the RWL facility area and also consists of a primary treatment pond and clarifying pond. The clarifying pond discharges into an adjacent duplex vertical flow wetland treatment system. Pond 2 is preceded by a dual chamber concrete headworks sedimentation basin that is utilized to capture sediments from stormwater from the FGD handling stack-out pad. The FGD stack-out pad is located to the southeast of the landfill and receives the conveyor carrying FGD from the power station. From this point, FGD is loaded into trucks and hauled to the active disposal area. The FGD stack-out pad has been designed to direct stormwater runoff to a channel system that is treated in Pond 2. In addition, the original leachate inflow pipe located on the western edge of Pond 2 has been redirected through a pump station to discharge into the concrete headworks.

Pond 3 is located to the east of the RWL and to the northwest of Pond 2 and consists of a primary treatment pond and clarifying pond. The clarifying pond discharges into an adjacent duplex vertical flow wetland treatment system.

Pond 5 is a single long pond and is located directly north of the Pond 3 group. Pond 5 discharge flows into the north end of Pond 3.

The vertical flow wetland treatment systems for Ponds 1, 2 and 3/5 were installed in 2016 and 2017 and have been designed to perform as additional filtration/treatment system components to remove target pollutants not completely removed by the preceding treatment processes. Flow from the clarifying ponds is directed into the vertical flow wetlands through an inlet structure. The effluent from the various vertical flow wetland systems is discharged through a weir and flow meter station off-site in accordance with the Plant National Pollutant Discharge Elimination System permit (Permit # 0IB00006*PD). Photographs 25 through 29 from Pond 1 depict the vertical wetlands, inlet structure, and flow meter station, which are of the same general construction as those used at Pond 2 and Ponds 3/5. Pond 6, located to the northwest of Phase H and I, is the most recently constructed pond and consists of both a lined primary treatment and a lined clarifying pond (Photographs 30 and 31).

3.3.1 POND 1

Pond 1 on the south side of the RWL was observed to be functioning properly during the annual inspection. The sedimentation/treatment portion of Pond 1 was observed to contain sufficient depth and capacity for retention of solids, as observable in Photographs 32 through 34. This pond is routinely cleaned of accumulated solids, typically through the use of extended-reach excavators or a floating dredge. Based on a visual assessment, Pond 1 was noted to have accumulated sediments below previous 2023 levels, most likely as a result of a net removal of sediments from the pond during 2024.

A build-up of sediments, aggregate, and vegetation continues to be observed in the north end of the pond near the two inflow channels (Photograph 32). A mobile trailer mounted temporary filter system was staged adjacent to Pond 1 clarifying pond (Photograph 34). This filter system continues to transfer water from the clarifying pond using a suction hose, filters the water and then pumps it into the inflow structures to the vertical flow wetland system. The filter was installed as a supplemental measure to improve water quality going to the next stage of treatment. The filter system was secured in the interior of the trailer and was not observed. There were no leaks observed, and the trailer appeared to be in satisfactory condition.

During the inspection it was observed that a mini excavator accessed the edge of the pond to break up solidified gypsum and minerals accumulated from the pre-treatment of leachate as it enters the pond. Plywood was placed on the liner to protect it from the rubber tracks (photograph 35). Discussions with facility personnel indicated that the northern accumulation of sediment continues to be maintained for drainage of leachate into the main body of the pond. For maintenance purposes, these materials should be removed from the surface as opportunities present themselves and properly disposed within the RWL. The sedimentation pond appears to be functioning satisfactorily with the available maintained volume in the main body of the pond.

Stone from the access roadway was observed to be deposited in the stormwater inflow channels. It is recommended that steps continue to be taken to mitigate the displacement of stone from the roadway by vehicles and during the application of maintenance aggregate to the surface. During the inspection active patching was occurring (photograph 36) on the western slope of the pond. ERM identified several minor small holes and tears in the geomembrane above the operating level which were actively being repaired during the 2024 inspection. Further, the small tears identified

in the liner noted in the 2023 inspection have been repaired (Photograph 37). ERM recommends that new tears in the liner continue to be repaired by a similar procedure as part of routine maintenance.

The vertical flow wetlands for Pond 1 were observed and appeared to be in satisfactory working order (Photographs 25 through 29). Vegetation is beginning to build up in the weir area at the downstream end of the features that should continue to be removed as part of the routine maintenance of the facility. The flume is beginning to show a slight algal buildup and it is recommended that it be cleaned as well. A groundwater interceptor pipe designed to maintain the natural groundwater surface below the vertical flow wetland liner system elevation was observed to have some iron precipitation (Photograph 38). Discussions with RWL staff indicate that review of analytical results from this location indicated that this is naturally occurring iron.

3.3.2 POND 2

Pond 2 on the southeast side of the RWL was observed and appeared to be functioning properly during the inspection. To assist with the removal of FGD solids derived from the stack-out pad and to minimize dredging, Gavin Power operates a concrete settling basin at Pond 2 (Photograph 39). This basin is routinely cleaned with an extended-reach excavator. The leachate inflow pipe located on the west side of the Pond 2 sedimentation basin has been connected to a pump station which directs the flow into the concrete headworks settling basin for initial treatment prior to entering the southern end of the geosynthetic-lined pond.

The primary treatment pond was observed to be in satisfactory working condition following the maintenance adjustments that continued after the 2020 annual inspection. During 2020 and early 2021, significant spot repairs were made to the geomembrane liner system of Pond 2. No rips or tears were observed during the 2024 inspection. Two isolated areas within the sedimentation pond were identified as “bunching” of the geosynthetic material. One of the areas has a small patch of vegetation indicative of a small hole above the pond operating level (photograph 40). This should be repaired as part of normal pond maintenance. ERM recommends that these areas continue to be monitored in 2025.

The primary treatment pond appears to be functioning adequately and was in the process of being partially dewatered during the inspection for purposes of solids removal on the southern end. (Photograph 41).

Like at Pond 1, Gavin installed a supplemental, mobile trailer mounted temporary filter system identified during the 2023 inspection at the edge of the clarifying pond that is part of the Pond 2 complex (Photographs 16 and background of 41). There were no leaks observed, and the trailer appeared to be in satisfactory condition.

The vertical flow wetland cells for Pond 2 were observed to be in satisfactory condition (Photograph 42). The easternmost wetland was functioning during the inspection. In addition, water from within the western cell was being dewatered into the eastern cell in advance of western cell maintenance. The rock lined outflow channel for the system to the south of the vertical ponds appeared to be functioning properly from a flow standpoint, with no signs of erosion or distress.

3.3.3 POND 3

Pond 3 on the northeast side of the RWL was observed and was in a mostly idled condition with the exception of limited stormwater/leachate influent. The sedimentation basin contained water, but the primary source of leachate is being captured at the influent pipe and being temporarily pumped into the head of Pond 5 (Photograph 43). On the northwestern side of Pond 3, a culvert continues to direct water from an RWL stormwater channel into the primary treatment pond. This culvert was originally a corrugated metal pipe but has been partially replaced on the downstream side with a high-density polyethylene (HDPE) pipe. The entrance to this culvert continues to degrade and shows excessive corrosion (photograph 44). ERM recommends replacing the remainder of this culvert with HDPE piping compatible with the previous partial replacement or full replacement of the pipe.

Within the primary treatment pond there was sediment accumulation observed within the central portion and along multiple embankments (as indicated in Photographs 45 and 46). This sediment accumulation was more visible in 2024 compared to previous annual inspections due to lowering of the water level in the primary treatment pond for maintenance purposes. A number of minor holes and tears in the liner were noted above the operating level of the primary treatment pond. The operating level of the primary treatment pond will be maintained below the level of these tears until they can be repaired in 2025 as weather allows. RWL staff indicate that this sedimentation pond has been dredged annually since 2022 and will continue in 2025.

The clarifying pond issues identified in 2023 have been rectified and the facility has been relined with a new geomembrane liner (Photograph 47) since the 2023 annual inspection. The geomembrane liner system has been installed and is in satisfactory condition. The facility is finalizing a geomembrane QA/QC report for the completed construction. A new construction detail to minimize roadway gravel from entering the pond has been installed consisting of a heavy-duty erosion control blanket around the crest of the Pond’s embankment.

Similar to Pond 1, a supplemental, mobile trailer mounted temporary filter system is operating between Pond 5 and the Pond 3 clarifying pond (background of Photograph 47 and 48). This filter system is being used to polish water after settling coming from both Pond 3 and Pond 5 prior to discharge to the vertical flow wetland system. The filter system was secured in the interior of the trailer and was not accessible for observation. There were no leaks observed in the area and the trailer appeared to be in satisfactory condition.

The vertical flow wetlands for both Pond 3 and Pond 5 were observed to be functioning properly. However, the flow measurement flume was observed with typical algal, sediment and vegetative buildup within the channel (Photograph 49). These items should be removed as part of normal facility maintenance. The corresponding permitted Outfall 009 appeared stable and was functioning in a satisfactory manner.

3.3.4 POND 5

Pond 5 (Photographs 50 and 51) on the northeast side of the RWL, adjacent to Pond 3, was observed to be functioning properly with respect to water flow and sedimentation during the annual inspection. A noticeable volume of accumulated sediments was visible near the inflow

channels and rerouted leachate inflow from Pond 3 was observed. This appears to be related to the Pond 5 water level being lower than in previous annual inspections. In the central and eastern portions of Pond 5 there was no indication of tearing of the geomembrane liner within the basin (Photograph 51). Similar to the 2023 inspection, it was observed that there was accumulated water under the Pond 5 liner system along a limited section of the southwest edge adjacent to Pond 3. This accumulation was evidenced by floating liner at the water interface at the pond operating level.

The facility has made a slit in the geomembrane several feet above the operating level of the pond for purposes of inserting a suction withdrawal pipe for removal of accumulating water originating from beneath the geomembrane. A small pump is utilized to withdraw this water as needed to avoid stress and uplift pressures on the liner system from accumulated water. The facility monitors this accumulation and continues to utilize personnel to withdraw this water and discharge it into the pond on an as needed basis. This water is reportedly clear and appears to be groundwater but was not observed by ERM during the inspection. It appears, based on the continued reappearance of this condition, that a perched groundwater condition may exist with a connection to the Pond 5 area. The source of this water has not been identified but is apparently not from the pond, since it accumulates above the operating level within the pond, and groundwater results from down gradient monitoring wells do not indicate a release from Pond 5.

There were punctures observed in the geomembrane liner near the concrete inflow channel to Pond 5 (Photograph 52) on the far western end that continue to appear to be the result of animal hoofs (i.e. white-tailed deer). Some holes are within the channel's flowline downstream of the concrete entrance channel to Pond 5 (Photograph 53). A changed condition from the 2023 annual inspection is that water is also accumulated under the liner system directly downstream of this stormwater inflow point that appears directly related to punctures in the flowline. The liner is bulging in this area similar to what is observed on the southwest edge (Photograph 54). ERM recommends that this situation be promptly investigated, water under the liner system removed and the geomembrane repaired.

ERM observed the rerouted Pond 3 discharge into Pond 5 (Photograph 50) as noted from last year's inspection. A temporary pump system continues to be maintained that directs collected Pond 3 leachate influent and redirects it through an aboveground polyvinyl chloride force main near the head (Western end) of Pond 5 on a section south of the Pond 5 stormwater inflow where the geomembrane was observed to not have perforations.

3.3.5 POND 6

Pond 6, located to the northwest of Phase H and I, is the most recently constructed pond and was observed to be functioning properly with respect to water flow and sedimentation during the annual inspection. Pond 6 consists of a newly constructed primary sedimentation/treatment pond and a clarifying pond. Pond 6 has been constructed with a composite liner system consisting of a HDPE geomembrane over a geosynthetic clay liner with an underlying detection zone. To allow for easier cleanout of accumulated sediments during operations, the bottom of the Pond 6 liner system was also constructed with a concrete protective cover. Equipment can operate on top of this cover and will allow sediment to be removed more efficiently. The concrete cover on the

bottom of the pond and partially up the sides to the operating level were observed to be in satisfactory condition where exposed (Photographs 30 and 31). Stone from the access roadway was observed to be present on isolated portions of the pond liner. It is recommended that steps be taken to mitigate the movement of stone from the roadway by vehicles and during the application of maintenance aggregate to the road surface. Minor tears in the liner were noted above the operating level on the south side of the primary treatment pond. ERM recommends that these tears be repaired in 2025.

The outfall for Pond 6 discharges into a riprap channel on top of the recently closed former Fly Ash Reservoir (FAR) located to the north of Pond 6. This channel was constructed after the FAR cover was in place and was planned for in the RWL Expansion as well as the FAR Closure Plan. A set of wood steps and handrails has been constructed to access this outfall discharge point for observation and sampling purposes. Minimal flow was observed at this discharge during the inspection. The rock lined outflow channel for the pond appeared to be functioning properly from a flow standpoint, with no signs of erosion or distress (Photograph 55).

3.4 OPERATION

Daily landfill operations are conducted and managed by Charah and overseen by Gavin Power. During the time of the inspection, general maintenance operations were occurring within the facility limits. As required by the PTI issued by OEPA, Gavin Power maintains daily logs of operations and performs daily inspections of the RWL.

Photographs 56 and 57 depict operating conditions at the FGD stack-out pad during the annual inspection. There was FGD production on the day of the inspection, and the material was satisfactorily handled and contained on the pad prior to being loaded into haul trucks for disposal in Phase H.

Activities during 2024 included the continued filling activities in Phase H and I and minor activities in Phase F2. Disposal in Phase F2 was limited to small areas to achieve final slope grades prior to covering with soil. Most of Phase F2 activities focused on intermediate cover soil placement and vegetation growth. The vertical phase for Phase F2 was completed in 2020 as the FGD material met the interim maximum height of approximately 965 feet. A soil cover was placed on the top of the FGD summit and vegetation has been adequately established. Photographs 58 and 24 depict the condition of the soil cover at this location. A series of chimney drains that are connected to the leachate collection system at the bottom of the landfill were observed within the summit area to assist in draining excess surface stormwater.

4. REVIEW OF CCR OPERATING RECORD DOCUMENTS AND PREVIOUS INSPECTION ITEMS

As required by 40 CFR § 257.84(b)(1)(i), a review of the operating record regarding the status and condition of the CCR unit includes 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:

- Ohio EPA Phase "I" before "G" Alteration Request, approval dated 2 January 2019;
- 2019 Landfill Annual Inspection Report, ERM dated 8 January 2020;
- 2020 Landfill Annual Inspection Report, ERM dated 8 January 2021;
- 2021 Landfill Annual Inspection Report, ERM dated 7 January 2022;
- 2022 Landfill Annual Inspection Report, ERM dated 6 January 2023;
- 2023 Landfill Annual Inspection Report, ERM dated 5 January 2024;
- Seven-day qualified person inspection checklists for the RWL from January 2024 through December 2024;
- American Electric Power Service Corporation (2016). *Gavin Plant Residual Waste Landfill Closure Plan.* Gavin Plant, Cheshire Ohio;
- Gavin Residual Waste Landfill PTI Alteration Request, dated 13 October 2014;
- 2023 OEPA Solid Waste Facility License;
- Stability and Settlement Analysis Report pursuant to Ohio Administrative Code 3745-30-05(C)(5), dated 2 November 2012; and
- Final Permit-To-Install Application Expansion of the Gavin Plant Residual Waste Landfill dated 2 November 2012

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 ADDRESSING 2023 ANNUAL INSPECTION ITEMS

Periodic repairs specified in the 2023 Annual Inspection Report developed by ERM included placing the final cap where final grades have been reached as required by OEPA; repairing identified geomembrane perforations; placement of a new geomembrane in the Pond 3 clarifying pond; seeding and mulching areas to establish vegetation; repairing erosional areas noted at the permanent capped areas; and continuing to remove sediments from all ponds on an as-needed basis. Based on the 2024 annual inspection and a review of the 2024 weekly inspection reports, the above-identified repair items from the 2023 annual inspection were mostly completed or observed as being underway as part of on-going maintenance and repairs. In particular:

- Minor repairs in Pond 1 recommended in 2023 were completed.
- New geomembrane liner system installed in the clarifying portion of Pond 3.
- Incised channels along the western access road were corrected and maintenance was performed on the rock check dams and sediment traps.
- Efforts to establish vegetation on the slopes of Phase F2 and J Vertical Expansion have been mostly completed. The portion of the southern slope that is still in need of mulching and seeding as mentioned in the 2023 Annual Inspection Report is scheduled for work in 2025.
- Dewatering of the Pond 3 sedimentation pond for purposes of solids removal is underway.
- Roadside drainage channels on the southern slopes of Phase F2 were improved with rock check dams and fill material where appropriate.
- Gavin Power Plant has consistently addressed items requiring attention that were identified in the weekly inspection reports.

5.2 RECOMMENDATIONS FOR 2024

ERM provides the following recommendations for the RWL based on the 2024 inspection:

1. The bulging liner and perforations within Pond 5 should be addressed within the next 90 days, or as windows of suitable weather for repairs are available. This is recommended to remove stress on the geomembrane and prevent migration of water into deeper soils under the pond. During 2025, it is recommended to further assess the source of this water in order to identify potential steps to avoid accumulation of water under the liner system. Water accumulated below the liner on both the western and southwestern edges should be removed and pumped into the geomembrane lined pond. Efforts should focus on elimination of the potential inflow of stormwater under the geomembrane. Methods for excluding deer from this area should be explored and implemented.
2. Implement the leachate seep repair plan developed for tying the exposed seeps on the eastern slope of the RWL above Pond 2 back into the residual material mass. Eliminate the standing leachate on the landfill surface. This should be accomplished prior to the next annual inspection.
3. Deficiencies identified during weekly inspections should continue to be documented and addressed in a timely manner in accordance with BMPs. This includes but is not limited to

addressing any erosion rills, removal of check dam sediment accumulation, roadway surfacing and leachate seep maintenance and capture.

4. Complete the placement of intermediate soil cover, seed, and mulch on minor remaining areas within Phases F2 and J and on the southern face of the RWL. 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.
5. Seed and fertilize localized bare soil areas along completed slopes (e.g., photo 22) to aid in the revegetation process, adding soil amendments and lime as needed.
6. Repair erosion gullies within the intermediate cover on the south end of Phase F2.
7. Continue to maintain check dams within channels experience sediment loading and continue maintenance of the sediment traps where erosion has been noted.
8. Fill developing erosional features within and at confluences of stormwater conveyance channels and berms adding rock soil and vegetating as appropriate. Add riprap armoring as needed to localized areas when FGD has been exposed.
9. Continue to schedule maintenance and replacement of media in the vertical flow wetlands for Pond 1, Pond 2, and Ponds 3 and 5. In addition, perform maintenance consisting of cleaning the weir polishing section and flow metering flume of each feature of developing algal mass, sediments and excessive vegetation.
10. Continue cleanout of Pond 3 sedimentation basin in 2025. It is recommended that the facility have a contingency plan for damages to the geomembrane during cleaning operations. Replacement of the corroded stormwater inflow pipe on the southwest corner is recommended to occur concurrently with Pond 3 maintenance.
11. Within Pond 1 continue general maintenance and repairs as required. Clean channel inlets of stone and remove densely packed solids as opportunities present to allow for unobstructed flow into the main body Pond 1. Continue to remove sediment buildup as needed for proper pond function.
12. Where small tears and minor perforations are identified in the geomembrane liners at Ponds 1, 2, 3 and 5 maintain operating level of ponds below these levels until repairs are made. These should be repaired during suitable weather conditions in the spring of 2025 but no later than the next annual inspection.
13. Stone from the access roadway to Pond 6 was observed to be on the pond liner. It is recommended that steps be taken to mitigate the displacement of stone from the roadway by vehicles and during the application of maintenance aggregate to the surface.

5.3 CONCLUSIONS

The 2024 annual inspection and document review indicated that the design, construction, operation and maintenance of the RWL is consistent with recognized and generally accepted good engineering standards, as required by 40 CFR § 257.84(b)(1). ERM observed that the lateral expansion for Phase I has been completed and current operational phases are being conducted in a satisfactory manner. Operators were observed to be performing satisfactory maintenance

operations. No changes were observed or identified since the last annual inspection which may affect the stability of the RWL.

Cleaning and repair of the sedimentation portion of Pond 3, repair and elimination of inflow under the Pond 5 liner system and repair of the exposed leachate seeps on the east side of the landfill should be a priority for 2025. Other repairs are less critical to the current stability of the RWL but should be addressed during 2025 under the Gavin Power Plant maintenance program or as otherwise indicated.

The facility should continue to frequently inspect all ponds for new perforations after currently proposed repairs are complete and anticipate additional geomembrane maintenance requirements in the future.

FIGURES

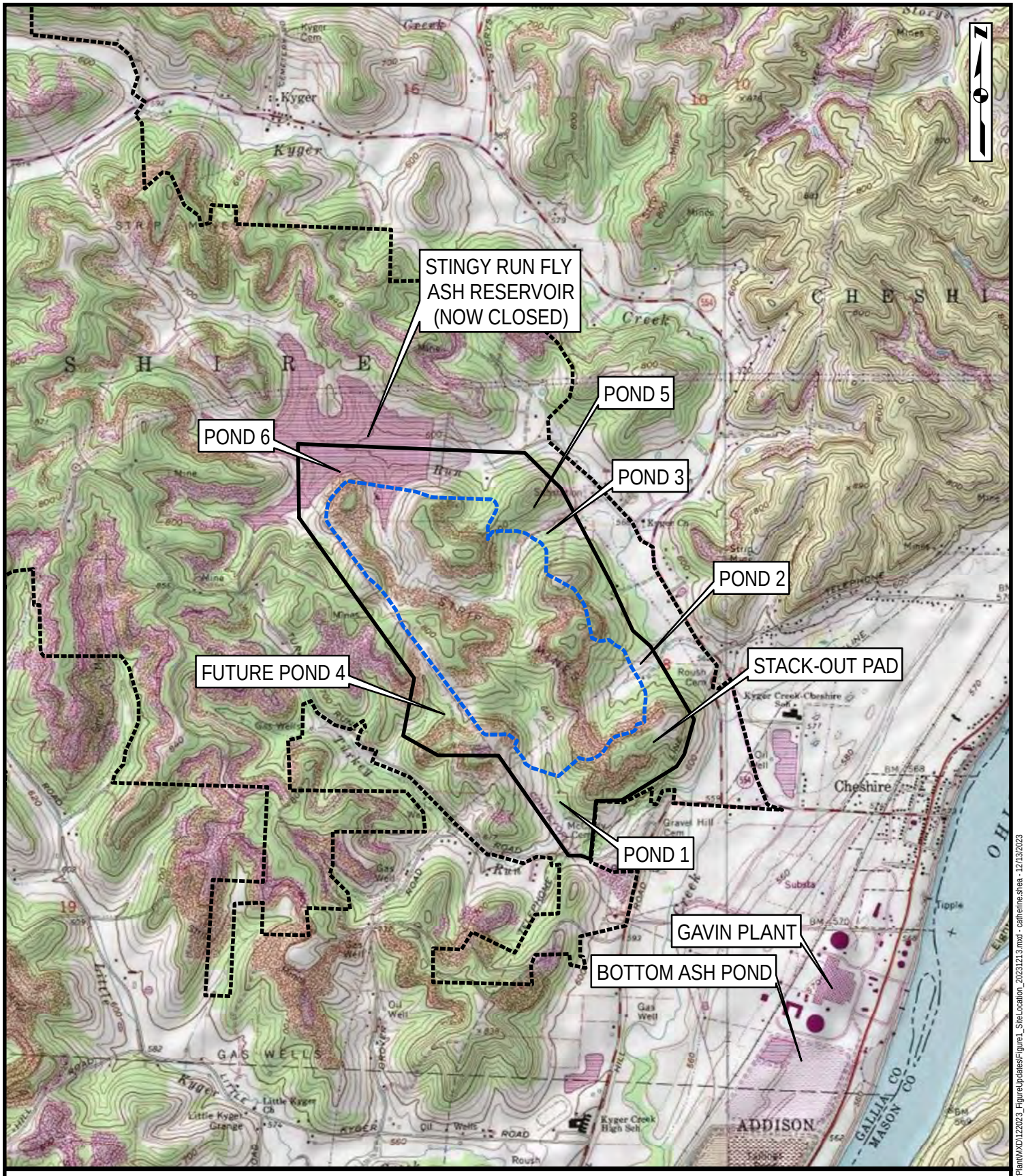

Figure 1: Site Location Map
Gavin Power LLC
Cheshire, Ohio

SOURCE: USGS scanned topographic quad maps provided by National Geographic Society (© 2023).

ERM

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Fly Ash Reservoir

Pond 6

Pond 5

Pond 3

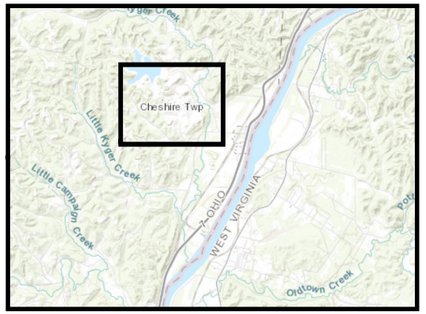
Pond 2

Residual Waste Landfill

Stack-Out Pad

Future Pond 4

Pond 1



Legend

- Phase F2 and J Vertical Expansion
- Phase H Lateral Expansion
- Phase I Expansion
- Permitted Residual Waste Landfill Boundary
- Permitted Facility Boundary
- Gavin Power LLC Property Boundary

NOTES:

1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery
3. Phase H Lateral Expansion has been filled to the level of northern and eastern roadway.

N

0 150 300 600 900 1,200 1,500

Feet

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

ERM

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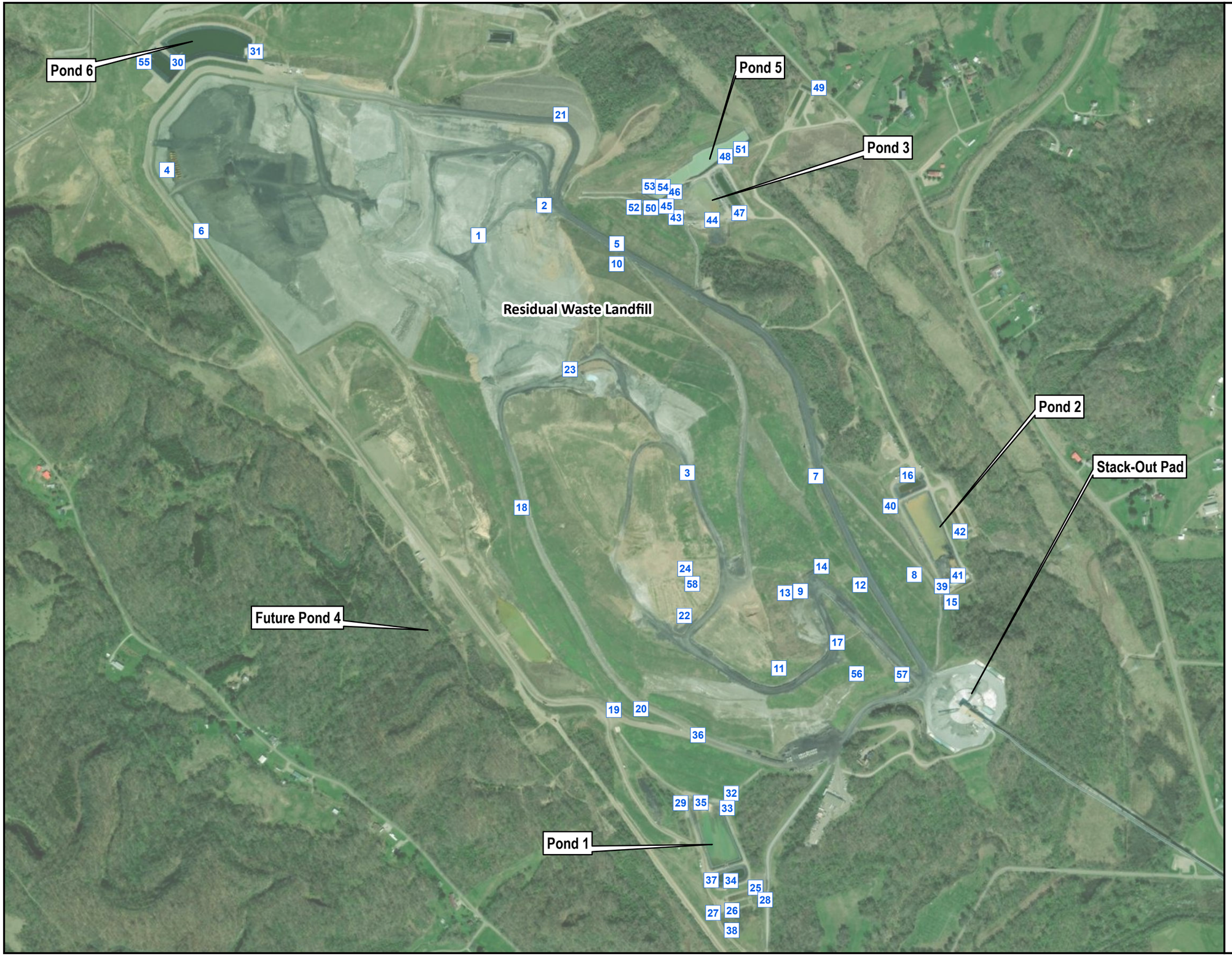

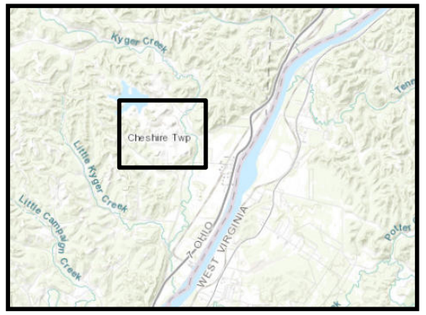

Legend

Photograph Location

NOTES:
1. Locations are approximate
2. Aerial Imagery: ESRI World Imagery

N

0 250 500 1,000
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 Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
1.	29 October 2024

DIRECTION PHOTO TAKEN
Northwest

DESCRIPTION
Looking at Center of Phase H/I from top of Phase J

PHOTO NO.	DATE
2.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
East-facing slope of Phase H.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
3.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
Dust mitigation (watering) activities along eastern haul road. Pond 3 is visible in the background.

PHOTO NO.	DATE
4.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
West-facing slope at northern end of Phase I.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
5.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
Haul road for access to the east-facing slope of Phase H

PHOTO NO.	DATE
6.	29 October 2024

DIRECTION PHOTO TAKEN
East

DESCRIPTION
View of active disposal area

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
7.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
Leachate Seep on Eastern slope above Pond 2

PHOTO NO.	DATE
8.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
Diverted leachate from seep in Photo 7 going into concrete headworks at Pond 2

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
9.	29 October 2024

DIRECTION PHOTO TAKEN
Southeast

DESCRIPTION
View of main haul road in satisfactory condition.

PHOTO NO.	DATE
10.	29 October 2024

DIRECTION PHOTO TAKEN
Northeast

DESCRIPTION
View of main haul road in satisfactory condition. Crew is hauling material and using grader to work on road. Eastern slopes are stable and well vegetated.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 11.	DATE 29 October 2024
DIRECTION PHOTO TAKEN South	
DESCRIPTION View of main haul road with rock check dams installed along inner roadside channel.	

PHOTO NO. 12.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of main haul road at the toe of the eastern slopes. Crew is cleaning out inner ditch line at the toe of slope. Slope is well vegetated and stable.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 13.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of main haul road along east side of landfill. Eastern slopes upslope of access road are well vegetated and stable.	

PHOTO NO. 14.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION Channel cleaning activities along eastern haul road.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 15.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of limestone access road leading to Pond 2.	

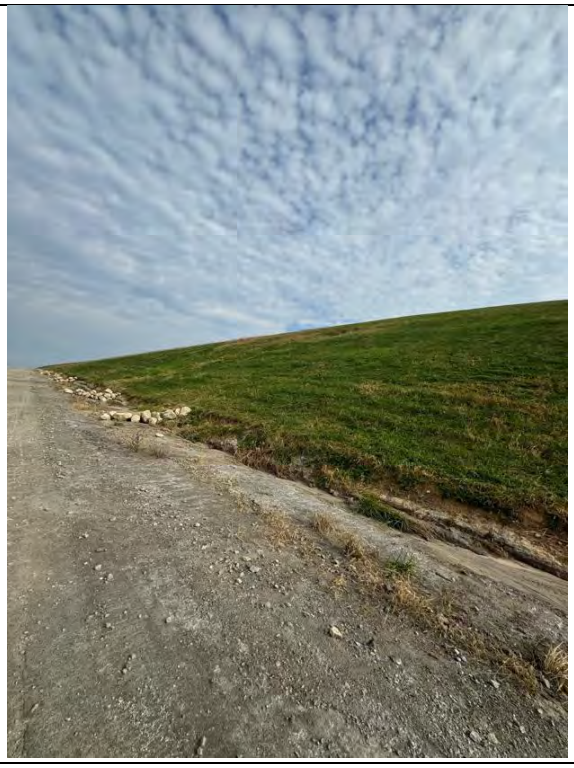
PHOTO NO. 16.	DATE 29 October 2024
DIRECTION PHOTO TAKEN West	
DESCRIPTION View of Pond 2 water treatment process equipment located adjacent to Pond 2 clarifying pond. Limestone access road is visible to the right.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 17.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION View of channel on south side of RWL along access road.	

PHOTO NO. 18.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION Re-established channel flow line along inside edge of western access road to Phase F2/J	



Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 19.	DATE 29 October 2024
DIRECTION PHOTO TAKEN Northwest	
DESCRIPTION Sediments in flow line of drainage bench needing clean out on western slope.	

PHOTO NO. 20.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of western slopes. Channel will need to be cleaned out. Slopes are stable and well vegetated.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 21.	DATE 29 October 2024
DIRECTION PHOTO TAKEN West	
DESCRIPTION View of well-vegetated northern slopes of Phase H lateral expansion	

PHOTO NO. 22.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of portion of southern vegetated slope of summit. Minor rills observed.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 23.	DATE 29 October 2024
DIRECTION PHOTO TAKEN South	
DESCRIPTION View of northern slope including intermediate cover and FGD material at the face of the slope	

PHOTO NO. 24.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of interim summit with chimney drains	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 25.	DATE 29 October 2024
DIRECTION PHOTO TAKEN West	
DESCRIPTION View of downgradient end of vertical flow wetland treatment adjacent to Pond 1.	

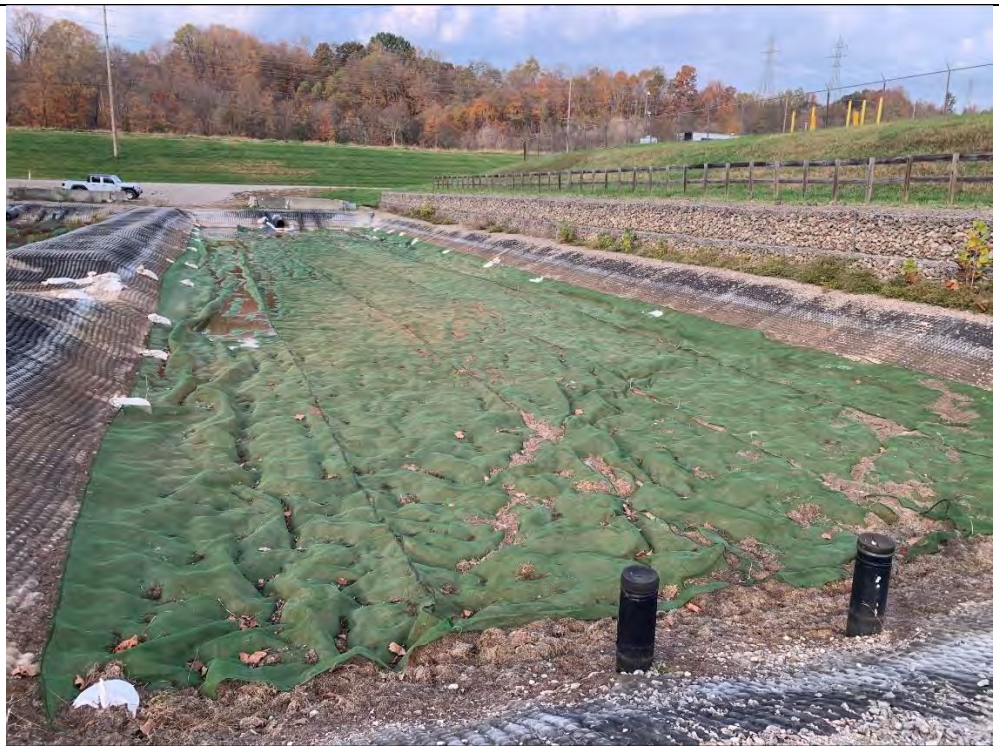


PHOTO NO. 26.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION View of inlet pipe for vertical flow wetland treatment adjacent to Pond 1.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 27.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of inlet structure for Pond 1 vertical flow wetland.	

PHOTO NO. 28.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of outlet for vertical flow wetland adjacent to Pond 1.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
29.	29 October 2024

DIRECTION PHOTO TAKEN
Southeast

DESCRIPTION
View of north inlet to Pond 1.

PHOTO NO.	DATE
30.	29 October 2024

DIRECTION PHOTO TAKEN
Northwest

DESCRIPTION
View of Pond 6 clarifying pond.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 31.	DATE 29 October 2024
DIRECTION PHOTO TAKEN West	
DESCRIPTION View of Pond 6 primary pond.	

PHOTO NO. 32.	DATE 29 October 2024
DIRECTION PHOTO TAKEN Southwest	
DESCRIPTION View of Pond 1 with sediment buildup and vegetation growth.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
33.	29 October 2024

DIRECTION PHOTO TAKEN
West

DESCRIPTION
View of patched repair on Pond 1 eastern embankment. Liner repair crew trailer is in the background.

PHOTO NO.	DATE
34.	29 October 2024

DIRECTION PHOTO TAKEN
Northwest

DESCRIPTION
View of Pond 1 water treatment process equipment located adjacent to Pond 1 clarifying pond.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
35.	29 October 2024

DIRECTION PHOTO TAKEN
South

DESCRIPTION
Location for access of mini-excavator into Pond 1 to maintain flow of leachate into main body of pond.

PHOTO NO.	DATE
36.	29 October 2024

DIRECTION PHOTO TAKEN
South

DESCRIPTION
Overall view of Pond 1 - Liner repair crew working on western edge of Pond (right side).

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 37.	DATE 29 October 2024
DIRECTION PHOTO TAKEN Northeast	
DESCRIPTION View of patched repairs in the southeast corner of Pond 1 clarifying pond.	

PHOTO NO. 38.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION Pond 1 groundwater interceptor discharge.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
39.	29 October 2024

DIRECTION PHOTO TAKEN
East

DESCRIPTION
Concrete headworks settling basin adjacent to Pond 2.

PHOTO NO.	DATE
40.	29 October 2024

DIRECTION PHOTO TAKEN
Southeast

DESCRIPTION
Wrinkle in liner system with vegetation indicative of small perforation.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
41.	29 October 2024

DIRECTION PHOTO TAKEN
Northwest

DESCRIPTION
View of Pond 2 primary pond.

PHOTO NO.	DATE
42.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
View of western cell of the vertical flow wetland at Pond 2, which was dewatered to facilitate maintenance.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 43.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION View of permanent pumping system transporting leachate influent intended for Primary Pond 3, directly into Pond 5.	

PHOTO NO. 44.	DATE 29 October 2024
DIRECTION PHOTO TAKEN West	
DESCRIPTION Upstream end of corroded stormwater/leachate culvert in need of replacement.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 45.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION View of sediment buildup within Pond 3 primary pond.	

PHOTO NO. 46.	DATE 29 October 2024
DIRECTION PHOTO TAKEN Southwest	
DESCRIPTION View of sediment buildup in Pond 3 primary pond along western embankment. A bypass pumping system was operating to carry leachate into Pond 5 in advance of planned dredging operations.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 47.	DATE 29 October 2024
DIRECTION PHOTO TAKEN North	
DESCRIPTION View of newly lined Pond 3 clarifying pond with erosion control blanket installed at the top of embankment between the gravel access road and liner.	

PHOTO NO. 48.	DATE 29 October 2024
DIRECTION PHOTO TAKEN West	
DESCRIPTION View of Pond 5 water treatment process equipment located along southern embankment of Pond 5.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
49.	29 October 2024

DIRECTION PHOTO TAKEN
Southeast

DESCRIPTION
View of flow measurement flume at outlet for Pond 3 and Pond 5 vertical flow wetlands. Flume discharges into Outfall 009.

PHOTO NO.	DATE
50.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
View of western side of Pond 5 where the Pond 3 temporary bypass system discharges.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
51.	29 October 2024

DIRECTION PHOTO TAKEN
Northeast

DESCRIPTION
View of eastern portion of Pond 5.

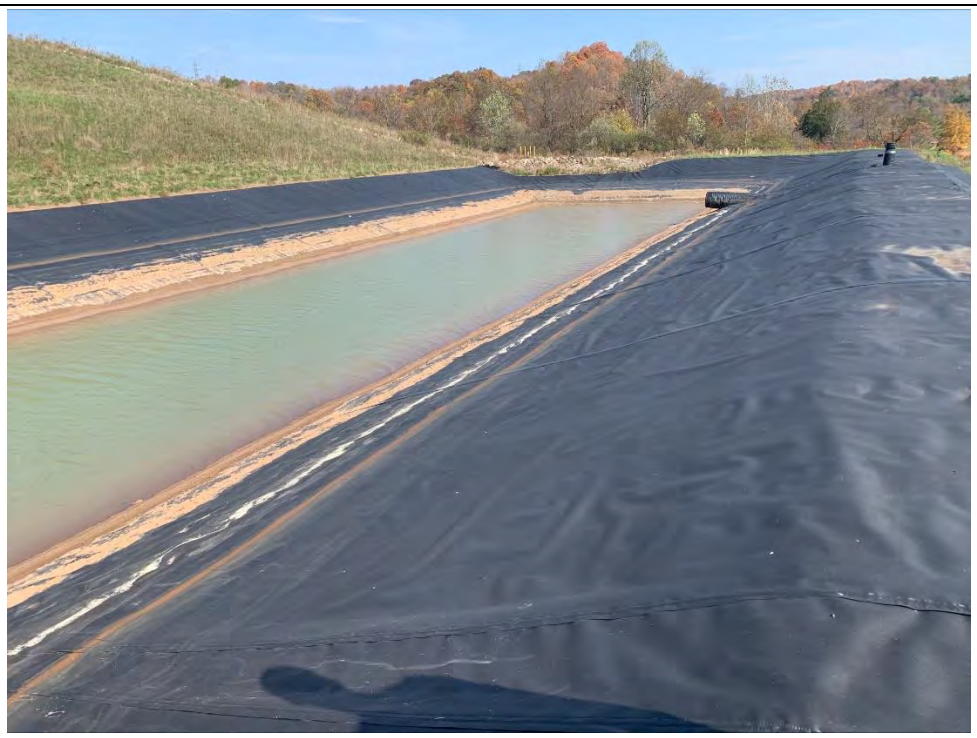


PHOTO NO.	DATE
52.	29 October 2024

DIRECTION PHOTO TAKEN
North

DESCRIPTION
View of inflow channel to Pond 5 with multiple small liner perforations suspected of being related to wildlife.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO. 53.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION Perforation in HDPE liner near flow line in western inflow to Pond 5.	

PHOTO NO. 54.	DATE 29 October 2024
DIRECTION PHOTO TAKEN East	
DESCRIPTION Bulge in HDPE liner from buildup of water underneath at western inflow to Pond 5.	

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
55.	29 October 2024

DIRECTION PHOTO TAKEN
Northwest

DESCRIPTION
Outfall for Pond 6.

PHOTO NO.	DATE
56.	29 October 2024

DIRECTION PHOTO TAKEN
Southeast

DESCRIPTION
View of FGD stack out pad operations.

Residual Waste Landfill Photographic Log

CLIENT: Lightstone Generation	SITE LOCATION: Gavin Power Plant Cheshire, Ohio	PROJECT NO.: 0720782

PHOTO NO.	DATE
57.	29 October 2024

DIRECTION PHOTO TAKEN
South

DESCRIPTION
View of FGD stack out pad operations from main haul road. Also pictured, main haul road inner roadside channel and road berm.

PHOTO NO.	DATE
58.	29 October 2024

DIRECTION PHOTO TAKEN
South

DESCRIPTION
View of interim summit of landfill with intermediate soil cover and vegetation growth.

APPENDIX B SUMMARY OF QUALITATIVE INSPECTION TERMS

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.

Satisfactory: A condition or activity that 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.

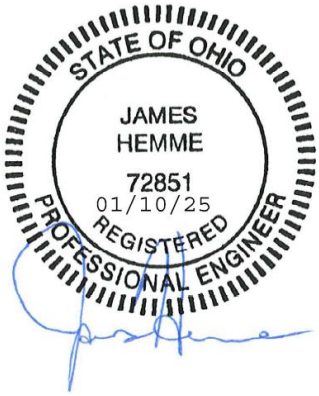
Significant: A reference to an item or activity which would impact the stability or daily operating conditions of the CCR unit. Generally, significant features develop over time and would likely be a result of maintenance not occurring when minor deficiencies were first noted. If left unchecked, such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

PROFESSIONAL ENGINEER CERTIFICATION

I hereby certify that I or an agent under my review has prepared this Annual Inspection Report for the Bottom Ash Pond, and am 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.

Date: 10 January 2025

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