

ASH POND CLOSURE PLAN

Revision 0

PLANT MITCHELL

ASH POND A, ASH POND 1, AND ASH POND 2

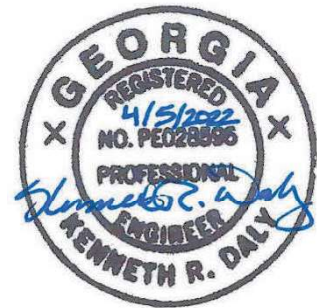
DOUGHERTY AND MITCHELL COUNTY, GEORGIA

FOR



Georgia Power

April 2022



Wood Environment & Infrastructure Solutions, Inc.
1075 Big Shanty Road NW, Suite 100, Kennesaw, GA 30144
(770) 421-3400

TABLE OF CONTENTS

1.	GENERAL	1
2.	NOTIFICATION	1
3.	BOUNDARY SURVEY AND LEGAL DESCRIPTION	2
4.	CLOSURE PROCEDURES.....	2
4.1.	FUGITIVE DUST CONTROL PLAN	3
4.2.	ORGANICS MANAGEMENT	4
4.3.	POND DEWATERING PROCESS.....	5
4.4.	STORMWATER AND CONTACT WATER MANAGEMENT	6
4.5.	NPDES INDUSTRIAL WASTEWATER DISCHARGE INDIVIDUAL PERMIT	6
4.6.	WASTEWATER MANAGEMENT	7
4.7.	CCR EXCAVATION AND REMOVAL CRITERIA.....	7
4.8.	GEOTECHNICAL INSTRUMENTATION.....	8
4.9.	BORROW AREA MANAGEMENT.....	8
4.10.	KARST MITIGATION.....	8
4.11.	RAILROAD LOADOUT FACILITY.....	8
4.12.	GROUNDWATER MONITORING	9
4.13.	DEMOLITION OF ASH POND INFRASTRUCTURE.....	9
4.14.	STABILITY ANALYSIS AND FINAL COVER ANALYSIS	10
4.15.	DRAWINGS.....	11
5.	CERTIFICATION OF CLOSURE/REPORTING	11
6.	ESTIMATE OF CCR QUANTITY	11
7.	VEGETATIVE PLAN.....	12
8.	SITE EQUIPMENT NEEDED	12
9.	EROSION AND SEDIMENT CONTROL (E&SC).....	12
10.	COST OF CLOSURE.....	12
11.	CLOSURE SCHEDULE	14

1. GENERAL

Wood Environment & Infrastructure Solutions, Inc. (Wood) prepared this Closure Plan on behalf of Georgia Power Company (GPC) for the Coal Combustion Residuals (CCR) surface impoundments (ash ponds) at Plant Mitchell. Plant Mitchell ceased generating electricity prior to October 19, 2015 (the effective date of the Federal CCR Rule 40 CFR Part 257) and, as a result, the three (3) ash ponds at Plant Mitchell are not subject to the Federal CCR Rule. This Closure Plan addresses the requirements of the Georgia Environmental Protection Division's (GA EPD) Solid Waste Rule 391-3-4-.10 for Management of Coal Combustion Residuals (i.e., State CCR Rule). The information contained in this Closure Plan will be used to assist GPC in the closure of Ash Pond A, Ash Pond 1, and Ash Pond 2 located in Albany, Georgia, on property owned by GPC. Ash Ponds 1 and 2 meet the definition of "NPDES-CCR Surface Impoundments" subject to State CCR Rule 391-3-4-.10(9)(c)7. Ash Ponds 1 and 2 did not receive CCR on or after October 19, 2015, both surface impoundments still contain CCR and liquids, and both are located at an electric utility that has ceased producing electricity prior to October 19, 2015. Ash Pond A meets the definition of a "Dewatered Surface Impoundment" and is therefore subject to State CCR Rule 391-3-4-.10(9)(c)8. Ash Pond A no longer received CCR and did not contain liquids on or after October 19, 2015. Ash Pond A served as Plant Mitchell's initial ash pond, it was taken out of service in 1962 and was covered with several feet of soil fill. Since that time, the area has been used for power generation and transmission structures. The underlying CCR serves as the foundation material, structural fill, and is considered past beneficial use prior to the federal and state CCR Rules.

Ash Ponds A, 1, and 2 will be closed by removing the CCR. GPC will remove CCR from the remaining Ash Pond A footprint that can be safely excavated without jeopardizing the stability of existing structures or the operation of the facility. The existing 115-kv switchyard and the 115-kv transmission towers will remain in active service and therefore, the CCR underneath these structures will continue to serve as beneficial use foundation material. Since Ash Pond A will be closed at the same time as Ash Ponds 1 and 2, this Closure Plan addresses the closure of the three (3) ash ponds together.

The ash ponds will be closed by removal. This will minimize the need for future maintenance during the post removal period. GPC will accomplish this by closing the three (3) ash ponds by removing CCR to a permitted landfill and/or selling it for beneficial reuse by others. Drawings depicting existing conditions, CCR removal, and final conditions illustrate the closure activities.

2. NOTIFICATION

GPC provided a written Notification of Intent (NOI) to Close the CCR Units by removal to GA EPD dated October 15, 2019. The notice was placed in the CCR unit's Operating Record at that time. The NOI is included in Part B – Supporting Documents of the permit. Closure activities are commencing according to the closure schedule presented in Section 11 of this Closure Plan. Depending on the actual CCR excavation rate achieved during closure activities, complete CCR removal and final restoration of each pond in accordance with this Closure Plan will be accomplished within fifteen (15) years following the beginning of closure activities.

3. BOUNDARY SURVEY AND LEGAL DESCRIPTION

In accordance with State CCR Rule 391-3-4-.10(9)(b)3, a sealed boundary survey of the plant property along with the legal description of the CCR permit boundary are included in Drawing 3 in Exhibit 8. The total area bounded by the CCR permit boundary is 181.3 acres (referred to as the Site hereafter).

4. CLOSURE PROCEDURES

The purpose of this Closure Plan is to describe the steps and procedures required to close the Plant Mitchell ash ponds consistent with recognized and generally accepted engineering practices. Though wetland and stream delineations are not required for closure by removal, GPC has located these features and surveyed the area for cultural and natural resources, including endangered species. No wetlands, streams, threatened or endangered species, nor eligible cultural resource features were identified within the CCR permit boundary. The major steps to close the ash ponds include: clearing and grubbing, dewatering, excavating and transporting the CCR to an off-site permitted landfill or selling it to an ash marketer for beneficial reuse, removing perimeter soil berms (dikes), and backfilling the excavated ash ponds with earthen fill to blend in with surrounding grades.

After removing the CCR and removing six inches of soil below the CCR, the existing dikes in Ash Ponds 1 and 2 will be breached. Soil from the dikes will be used as fill within the former ponds for grading. Once final grades are reached, vegetation will be established. The grading plans are intended to promote positive drainage of stormwater away from the closure area, generally restoring the lay-of-the-land to conditions similar to those before the ash ponds were constructed. Existing appurtenant structures, such as the emergency overflow structures, ash recycle intake structures, culverts, underdrain piping, wells and piezometers that are located within the ash ponds and associated perimeter berms, will be removed.

Historical records indicate that GPC removed the Ash Pond A dikes and covered the remaining ash pond with soil in 1962. After Ash Pond A was covered with soil in 1962, several power generation and transmission structures were constructed either within or partially within the footprint of the Ash Pond A. These generation and transmission structures include a 230-kv switchyard, an energized 115-kv switchyard, a combustion turbine unit #4 facility, and several energized 115-kv transmission lines and associated towers and guy wires. As part of the ongoing plant demolition project, the 230-kv switchyard and the combustion turbine unit #4 facility will be demolished; however, the energized 115-kv switchyard and the 115-kv transmission towers will not be demolished and will remain in active service. Additionally, GPC will remove CCR from the remaining Ash Pond A footprint that can be safely excavated without jeopardizing the stability of existing, energized electrical structures or the operation of the facility. The CCR underneath these structures serves as foundation material (e.g. structural fill) and is a beneficial use of CCR that pre-dates the Federal CCR Rule and the Georgia State CCR Rule. A Beneficial Use Demonstration Report will be submitted to EPD for the foundation areas that will remain in place. Criteria for this report will be established in the Beneficial Use Demonstration Work Plan.

To close Ash Pond A, GPC will remove the CCR from the footprint that can be safely excavated without jeopardizing the stability of existing structures or the operation of the facility. After

removing the Ash Pond A overburden soil, CCR, and six inches of soil below the CCR, the excavation will be backfilled with soil to final grades.

Plant demolition operations, maintenance of the existing electricity transmission and distribution structures, and development of new transmission and/or distribution structures may occur within the permit boundary. Activities not directly affecting the CCR removal operations, such as those needed to construct, maintain, replace or repair systems for electric power generation or its delivery (such as subsurface piping, electrical appurtenances, transmission structures, emergency storm recovery operation, etc.), may be conducted at GPC’s discretion. However, should utility maintenance operations be required such that CCR removal operations are required to be conducted differently than how they are described in the Closure Plan, GPC will inform GA EPD in advance of such changes and, if necessary, submit appropriate documentation (a minor modification request) detailing those changes for review and approval prior to commencement. GPC will amend the Closure Plan whenever there is a change that would substantially affect the Closure Plan or unanticipated events necessitate a revision of the closure plan. The Closure Plan will be amended no later than 30 days following a triggering event.

4.1. FUGITIVE DUST CONTROL PLAN

This fugitive dust control plan identifies and describes the CCR fugitive dust control measures that GPC will use to minimize CCR from becoming airborne at the facility, including CCR and soil fugitive dust originating from ash ponds (during static conditions, ash excavation, and ash hauling), roads (haul and construction roads), ash handling activities, and soil excavation, hauling, and placement. GA EPD State CCR Rule 391-3-4-.10(2)(a) (incorporating 40 CFR § 257.53 by reference) defines “fugitive dust” as “solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than through a stack, or chimney.”

Fugitive dust originating from the ash ponds and ash pond closure activities will be controlled using water suppression or polymer tackifiers.

The fugitive dust control measures identified and described in this plan were adopted and implemented based upon an evaluation of site-specific conditions and are determined to be applicable and appropriate for the Plant Mitchell ash pond closure. Evaluation included assessing the effectiveness of the fugitive dust control measures for the facility, taking into consideration various factors such as site conditions, weather conditions, and operating conditions.

CCR that is transported via truck to stockpiling prior to loading in rail cars or trucks for shipment off-site will be conditioned to an appropriate moisture content to reduce the potential for fugitive dust.

Water suppression or polymer tackifiers will be used as needed to control fugitive dust on facility roads used to transport CCR and other CCR management areas. Speed limits will be utilized to reduce the potential for fugitive dust. Trucks used to transport CCR will be filled to or under capacity to reduce the potential for material spillage.

CCR removal equipment shall be physically cleaned to the extent that is practically possible to remove all visible ash after use. Cleaning activities will take place within the permit boundary of AP-A, AP-1 & AP-2. Material from the cleaning processes will either be consolidated and hauled to an appropriately permitted solid waste facility or combined with material designated for beneficial use. All liquids will be managed in accordance with the Plant Mitchell NPDES Permitted outfall GA0001465.

GPC and construction personnel will assess the effectiveness of the control measures by performing visual observations of the ash ponds and surrounding areas and implementing appropriate corrective actions for fugitive dust, as necessary. Logs will be used to record the utilization of water-spray equipment.

Any complaint received from a citizen regarding a CCR fugitive dust event at the facility will be documented and investigated. Appropriate steps will be taken, including any corrective action, if needed.

4.2. ORGANICS MANAGEMENT

The ash ponds contain a variety of vegetation from trees and underbrush to non-woody plants. Woody vegetation will be cut above the ground surface and removed prior to removing CCR. Vegetation and wood waste will be managed in the following manner:

1. Trees and logs may be harvested, windrowed or stockpiled for mulching prior to off-site disposal, chipped for use on site as a best management practice (BMP) measure, burned through approved methods, or disposed of at an off-site landfill.
2. Large bushes may be windrowed or stockpiled for mulching prior to off-site disposal, burned through approved methods, or disposed of at an off-site landfill.
3. Stumps and tree roots may be windrowed or stockpiled for mulching prior to off-site disposal, chipped for use on site as a BMP measure, burned through approved methods, or disposed of at an off-site landfill.
4. Grass and brush may be windrowed or stockpiled for mulching prior to off-site disposal, or disposed of at an off-site landfill.

Remaining wood waste from grubbing work within the CCR will be managed and kept separate from surface-cut wood waste. Wood waste that contains CCR will be managed within the ash pond limits in the following manner:

1. Stumps and tree roots may be mechanically screened to remove CCR, windrowed or stockpiled for mulching prior to off-site disposal, burned through approved methods, or disposed of at an off-site landfill.
2. Grass and bushes may be mechanically screened to remove CCR, windrowed or stockpiled for mulching prior to disposal at an off-site landfill.

The following procedures will be followed for on-site burning:

1. An air curtain destructor (ACD) will be used for all burning. An ACD Permit will be obtained through an online permit application or at the local fire department.

- a. If the ACD burning operation is in Mitchell County, the ACD Permit will be obtained online at <http://www.gatrees.org/online-permits/AddACDPermit.cfm?County=Mitchell>.
- b. If the ACD burning operation is in Dougherty County, the ACD Permit will be obtained at the Albany Fire Department.
- c. Burn Type 13 “Land Clearing – Burning with Air Curtain Destructor” is allowed for Mitchell and Dougherty Counties as long as the following are met:
 - i. Authorization for such open burning is received from the fire department, if required, having local jurisdiction over the open burning location prior to initiation of any open burning at such location;
 - ii. The location of the ACD is at least 300 feet from any occupied structure or public road. ACD used solely for utility line clearing or road clearing may be located at a lesser distance upon approval by the Division;
 - iii. No more than one ACD is operated within a ten (10) acre area at one time or there must be at least 1000 feet between any two air curtain destructors;
 - iv. Only wood waste consisting of trees, logs, large brush and stumps which are relatively free of soil are burned in the ACD;
 - v. Tires or other rubber products, plastics, heavy oils or asphaltic based or impregnated materials are not used to start or maintain the operation of the ACD;
 - vi. The ACD is constructed, installed and operated in a manner consistent with good air pollution control practice for minimizing emissions of fly ash and smoke;
 - vii. The cleaning out of the ACD pit is performed in a manner to prevent fugitive dust; and
 - viii. The ACD cannot be fired before 10:00 a.m. and the fire must be completely extinguished, using water or by covering with dirt, at least one hour before sunset.
2. Follow GA EPD’s guidance document “Open Burning Air Curtain Destructor Operation Guide.”
3. Obtain a burn permit from the Georgia Forestry Commission.
4. Mitchell and Dougherty Counties are not subject to GA EPD summer burn bans (May 1 – September 30). Therefore, ACD burning operation at the Plant Mitchell site may continue during this period.

4.3. POND DEWATERING PROCESS

Dewatering will include removing water using a variety of methods, including but not limited to passive, gravity-based methods (e.g. rim ditches) and/or active dewatering methods (e.g. pumps and well points) as needed to allow for CCR excavation and transportation. CCR contact water and legacy wastewater from the ash ponds will be further treated by an on-site wastewater treatment system (WWTS). Water will be managed and discharged in accordance with the site’s approved NPDES Industrial Wastewater Discharge Individual Permit. Consistent with the NPDES permit

requirements, GPC will develop a written *Ash Pond Dewatering Plan* (Dewatering Plan) to describe treatment processes, monitoring and best management practices necessary to comply with the NPDES Industrial Wastewater Discharge Individual Permit requirements. The Dewatering Plan will be submitted to the GA EPD Watershed Protection Branch for review and approval prior to commencing dewatering activities.

4.4. STORMWATER AND CONTACT WATER MANAGEMENT

During CCR removal, run-on stormwater and run-off contact water (e.g. stormwater that has come into contact with CCR) will be controlled with best management practices such as channels, diversion berms, and pumps and managed in accordance with the NPDES Construction Storm Water and Industrial Wastewater Discharge Individual permits. GPC will prepare a phased erosion and sediment control plan that will be followed for closure construction activities, as needed.

The existing Ash Pond 1 and 2 dikes will remain in place during CCR excavation, effectively containing CCR contact water runoff for treatment at the on-site WWTS in accordance with the Dewatering Plan. This will continue until CCR removal is verified as complete. Stormwater and contact water will be prevented from ponding as much as practicable to facilitate CCR removal. Alternatively, a phased approach may be utilized to allow clearing and grubbing, CCR and foundation soil excavation, final restoration and perimeter berm removal.

Contact water will be contained within Ash Pond A limits and pumped to the on-site WWTS in accordance with the Dewatering Plan until CCR removal is verified as complete. Contact water will be prevented from ponding as much as practicable to facilitate CCR removal.

Stormwater, or non-contact water runoff will be routed around the excavation and be conveyed (e.g. via pumps) to the existing surface water management system (ditches, channels and drop inlets) until the CCR is removed and the soil berms are breached. Berms and rain tarps will be utilized between the final restoration areas (e.g., areas with CCR and 6" foundation soil excavated and/or with restoration grades completed) and active excavation areas to reduce potential for generating contact water.

4.5. NPDES INDUSTRIAL WASTEWATER DISCHARGE INDIVIDUAL PERMIT

Plant Mitchell currently discharges stormwater and/or wastewater under NPDES Industrial Wastewater Discharge Individual Permit GA0001465 with an effective date of September 1, 2017. This permit governs discharges into the Flint River from outfalls 01B, 01E, and 04. In accordance with the permit, GPC submitted a Dewatering Plan to GA EPD (Watershed Protection Branch) at least 90 days prior to beginning the dewatering of the ash ponds. GA EPD approved the Dewatering Plan on June 3, 2020. The permit establishes effluent limitations and monitoring requirements, which GPC follows for discharges from the WWTS.

4.6. WASTEWATER MANAGEMENT

During ash pond closure, CCR contact water and legacy wastewater from the ash ponds will be treated by an on-site WWTS. The wastewater will be treated to meet the NPDES permit effluent discharge requirements. Treatment methods may include physical-chemical processes such as flocculation, clarification and filtration. The proposed WWTS location is subject to change based on pending detailed design. The WWTS will not be decommissioned until verification of CCR removal is completed and wastewater treatment is no longer needed on site.

4.7. CCR EXCAVATION AND REMOVAL CRITERIA

The CCR will be excavated considering many site specific factors including access into and out of the ash ponds, haul routes, dewatering methods, detailed CCR excavation and final restoration phasing plans, excavation working face size, and excavation and hauling methods. In addition, GPC will establish methods for observing, monitoring, and documenting CCR excavation and compliance with the approved Closure Plan.

The general sequence of planned activities is described in the CCR Excavation and Phasing plans follows: CCR excavation will be organized in sequences in such a manner as to expose that amount of CCR that can reasonably be worked by the contractor, and such that stormwater can be managed by onsite stormwater controls. Sequencing CCR removal incrementally is intended to limit the active excavation area and reduce CCR contact water generation to the extent practicable. As excavation proceeds, new diversion ditches/berms will be installed to re-direct runoff from new excavation areas to the contact water management features; interim slopes will be graded to drain to the temporary ditches and then to the contact water management features. This process will proceed until the base of each CCR unit is reached and all CCR material has been removed. Once ash removal is completed according to the CCR Removal Verification process, the former CCR unit will be graded, backfilled and stabilized. Typical stormwater best management practices and other erosion control measures that may be employed during the excavation and removal of CCR within the units are shown on the drawings.

CCR removal equipment shall be physically cleaned to the extent that is practically possible to remove all visible ash after use. Cleaning activities will take place within the footprint of Ash Pond A, Ash Pond 1, Ash Pond 2 and the rail loadout area. All solid material from the cleaning process will be consolidated and hauled to an appropriately permitted solid waste landfill and/or for beneficial use by others, all liquid will be managed and treated under the Plant Mitchell Industrial NPDES Wastewater Permit GA0001465.

There is existing power transmission infrastructure located within the Ash Pond A limits that will remain in place and operational during and after ash pond closure. Specifically, there is a 115-KV switchyard located in the northwest corner of Ash Pond A, and transmission towers and guywires located in the central and southeast area of Ash Pond A. For safety and stability purposes, a 25-foot offset must be maintained from the transmissions towers and guy wires. A 15-foot offset must be maintained from the 115-

KV switch yard. The Ash Pond A CCR Removal Plan is developed based on these offsets and is presented in Drawing 5 in Exhibit 8.

“CCR removal” refers to the process of verifying and documenting that the CCR has been removed from the ash ponds. The ash ponds are known to contain a mixture of fly ash and bottom ash collectively referred to as CCR. The CCR removal verification is based on removing visible CCR and a minimum of six additional inches of soil. The documentation of this procedure is presented in Section 2 of the companion Construction Quality Assurance (CQA) Plan.

4.8. GEOTECHNICAL INSTRUMENTATION

Geotechnical instrumentation may be utilized to obtain subsurface information to monitor ground conditions during CCR removal. Instrumentation may include settlement plates, slope inclinometers, vibrating wire piezometers, and using standpipes to measure water levels.

4.9. BORROW AREA MANAGEMENT

Restoration grading for Ash Ponds 1, 2, and A will reuse soil from the existing perimeter dikes, existing cover soil (for Ash Pond A), existing on-site stockpiles, and appropriately permitted off-site sources. No new on-site borrow area will be established as part of this closure project.

4.10. KARST MITIGATION

Regional geologic information and site-specific characterization have identified the presence of carbonate bedrock at the site. Karst features can be triggered by surface water infiltration. Therefore, stormwater and contact water will be prevented from ponding as much as practicable to minimize surface water infiltration. Section 4 of the CQA Plan includes general sinkhole mitigation guidelines and procedures.

In response to site geologic conditions, GPC has taken the extra measure of implementing an Integrated Groundwater Parameter Monitoring Program (IGPMP) to promote construction safety and environmental protection during ash basin closure. The IGPMP consists of monitoring groundwater parameters in various wells/piezometers as a potential early indication of karst activity. Groundwater levels, temperature, and conductance are monitored and compared to an established historical range of typical values. When monitored parameters exceed threshold values relative to the typical ranges the data is evaluated, and field conditions are observed for potential karst activity.

4.11. RAILROAD LOADOUT FACILITY

GPC proposes hauling CCR from the site by rail and/or truck to an offsite permitted landfill approved to receive CCR or selling it to ash marketers for beneficial reuse. The current drawings illustrate the conceptual location of railroad siding and rail loading facilities. Specific and detailed railroad track and rail loadout area design will be completed

separate from the Closure Plan. The rail loading facility will include a roller compacted concrete pavement surface with perimeter curbing to contain and convey contact water to geomembrane-lined basins. From the geomembrane-lined basins, contact water will be pumped to the WWTS for treatment.

4.12. GROUNDWATER MONITORING

GPC will monitor groundwater semi-annually pursuant to the requirements defined in the Groundwater Monitoring Plan included in the permit. GPC proposes to monitor groundwater for a period of five (5) years after the CCR has been removed from the Ash Ponds A, 1, and 2 footprint to confirm that groundwater constituent concentrations are not detected at statistically significant levels above the groundwater protection standards established in State CCR Rule 391-3-4-.10(6)(b) which references the constituents listed in the Federal CCR Rule Subpart D, Appendix III and IV. A demonstration certified by a Qualified Groundwater Scientist will be submitted to GA EPD for approval documenting that groundwater constituent concentrations are not detected at statistically significant levels above the groundwater protection standards established in Rule 391-3-4.10(6)(b) for constituents listed in Appendix IV. Evaluation criteria may include but are not limited to, additional sampling, analysis, calculations, and/or modeling to demonstrate compliance with 391-3-4.10(7)(b) as determined by the Qualified Groundwater Scientist and approved by GA EPD.

In accordance with Georgia Water Well Standards Act (O.C.G.A. § 12-5-134(5)(d)(vii)), at least once every five years, the owner of the property on which a monitoring well is constructed shall have the monitoring well(s) inspected by a professional engineer or professional geologist, who shall direct appropriate remedial corrective work to be performed if the well does not conform to standards.

Well inspection records and records of remedial corrective work are subject to review by GA EPD. Additionally, as part of the closure plan, the cost estimate based upon the current year cost for the well inspections will be provided as part of the cost calculations for the groundwater monitoring period.

4.13. DEMOLITION OF ASH POND INFRASTRUCTURE

Various plant and ash pond infrastructure will be demolished during or after ash pond closure. The overall coal-fired plant will be demolished separately from the ash pond closure project. The majority of the coal-fired plant will be demolished before ash pond closure begins. The 230-KV switchyard located in the northern portions of Ash Pond A will be demolished before Ash Pond A closure begins. The 115-KV switchyard located in the northwest corner of Ash Pond A and transmission towers and guywires are located in the central and southeast area of Ash Pond A will remain in place.

The disposition of infrastructure in and around Ash Ponds A, 1 and 2 varies. Some infrastructure will need to remain functional during ash pond closure. Some infrastructure will be demolished during ash pond closure. Other infrastructure may be repurposed to support ash pond closure. Ash pond infrastructure that is removed may be reused in other

appropriate applications or disposed of in an appropriately permitted solid waste disposal facility. The disposition of ash pond infrastructure is summarized in the following table.

Ash Pond Infrastructure	Maintain Functionality During CCR Removal	Demolished During CCR Removal	Potential Repurpose for Ash Pond Closure	Demolish During Dike Removal
Low Volume Wastewater Sump Discharge Line into Ash Pond 2	X			X
Ash Pond 1 and 2 Emergency Overflow Structures		X		X
Ash Pond 1 and 2 Recycle Discharge Structures		X		X
Ash Pond Recycle Line			X	X
Ash Sluice Lines		X	X	X
Two Equalization Pipes between Ash Ponds 1 and 2	X	X		X
Dike Finger Drains and Pump Stations	X			X
Wells/Piezometers on the Dikes or in the Vicinity of Ash Ponds	X			X
Storm Drain Pipes and Drop Inlets within Ash Pond A		X		

4.14. STABILITY ANALYSIS AND FINAL COVER ANALYSIS

A stability and final cover analysis is not required for Ash Ponds 1 and 2, because GPC is closing Ash Ponds 1 and 2 by removal consistent with the “closure through removal” under State CCR Rule 391-3-4-.10(9)(c)7(vii), which only requires that a closure narrative be provided. GA EPD Safe Dams Program has classified the Ash Pond 1 earthen dikes (dam identification number 101-016-4002) and Ash Pond 2 earthen dikes (dam identification number 101-001-0015) as Category II dams. Southern Company Engineering and Construction Services completed slope stability analyses for Ash Ponds 1 and 2 in 2010. Results of analyses indicated that slope stability factor of safety criteria were satisfied with marginal factors of safety reported for shallow failure surfaces of the Ash Pond 1 downstream dam, and Ash Pond 2 upstream dam. The marginal factors of safety were considered acceptable on the basis of actual stable field performance and the routine monitoring and inspections.

State CCR Rules Chapter 391-3-4-.10(9)8 requires a stability analysis and a final cover analysis for Ash Pond A which is defined as a Dewatered Surface Impoundment. Ash Pond A earthen dikes were removed in 1962 and Ash Pond A is fully incised, therefore it does

not have a dam identification number. Ash Pond A is being closed by removal. Therefore, requirements for stability and final cover analyses are not applicable.

4.15. DRAWINGS

Drawings depicting existing, interim, and final conditions are included in Exhibit 8. The existing conditions drawings show the current topography and site features, as well as the groundwater monitoring well and piezometer network. The CCR Removal Plan drawing portrays interim conditions showing the expected CCR excavation grades accounting for over-excavating six inches of soil prior to dike removal. The Restoration Grading Plan drawing portrays final conditions showing the post-dike removal grades and final stormwater management measures. The drawings also identify infrastructure remaining or demolished at the interim and final conditions.

5. CERTIFICATION OF CLOSURE/REPORTING

Upon completion of CCR removal, a professional engineer registered in Georgia will prepare, and GPC will submit a certification report documenting the removal to GA EPD. The certification report shall be submitted to GA EPD within 60 days of completion of closure by removal activities. An Annual Certification Report will be submitted to GA EPD following the first year of closure activities. This initial report will be submitted to document removal activities during 2020 and to confirm that the information and format are consistent with the CQA Plan. GA EPD’s review comments will be incorporated into the report format for any future and/or final certification reports.

Pursuant to State CCR Rule 391-3-4-.10(7)(e), once all CCR removal is complete and groundwater monitoring concentrations at the site have been demonstrated not to exceed the applicable Federal and State groundwater protection standards, GPC will submit a closure report to the GA EPD Director. The closure report will be completed on forms provided by GA EPD. Pursuant of closure by removal activities being successful, the deed notification requirements of Rule 391-3-4.10(7)(f) are no longer required to be submitted to GA EPD.

6. ESTIMATE OF CCR QUANTITY

The estimated volumes of CCR present in the ash ponds were calculated using AutoCAD software and are presented in Table 1 below.

Table 1. Estimated CCR Quantity

Ash Pond	CCR Quantity Estimate (cubic yards)
A	31,198
1	1,046,847
2	1,099,596
Estimated Total	2,177,641

7. VEGETATIVE PLAN

The final restoration areas for the three (3) ash ponds and the potential onsite borrow area will be seeded and maintained (fertilized) to meet the requirements in the Manual for Erosion and Sediment Control in Georgia. These areas will be stabilized as appropriate for the final conditions. Areas will be stabilized within two weeks after reaching final grades. Areas where permanent vegetation is slow to establish will receive temporary seeding. GPC may submit soil samples to the County Extension Agent (or other agronomic laboratory) for analysis and determination of proper soil amendments.

8. SITE EQUIPMENT NEEDED

GPC will hire contractors to dewater, excavate, and transport the CCR. Soil excavation and grading will also be completed by contractors. The contractors will be responsible for supplying the appropriate earthwork equipment to execute the work. At a minimum, it is expected that dozers, excavators, loaders, water trucks, and dump trucks will be needed.

9. EROSION AND SEDIMENT CONTROL (E&SC)

E&SC measures' design, permitting, and construction will be completed in accordance with the Manual for Erosion and Sediment Control in Georgia. E&SC measures will be constructed and maintained per the closure drawings and Erosion, Sediment, and Pollution Control (ES&PC) plans prepared in accordance with the State CCR Rule. Supporting ES&PC Plans are included in the permit application Part B, Supporting Documents.

10. COST OF CLOSURE

In compliance with applicable securities laws and regulations, cost estimates for CCR removal activities and post CCR removal groundwater monitoring for Ash Ponds 1, 2, and A will be provided to GA EPD under separate cover. The costs include all items necessary for a third party to complete the project in accordance with the Closure Plan included herein. The cost estimates provided to GA EPD will be based on an area of 104 total acres and in 2021 dollars and adjusted annually for inflation.

Ash Ponds Closure by Removal Estimate

Item Description	Quantity	Unit	Unit Cost	Cost
<i>Program Management</i>				
Regulatory Compliance, Fees & Reporting				
Groundwater Sampling & Reporting, Compliance Evaluations ¹				
<i>AP Closure Construction</i>				
<i>Construction Management, Construction Support</i>				
Construction Management				
Support Facilities				
Engineering and CQA Construction Support				
Mobilization/Site Preparation and Demobilization				
<i>CCR - Excavate, Transport, Place, Manage</i>				
Stability and Performance Monitoring Equipment				
Organics Management				
Dust Control				
CCR Excavate, Conditioning for compaction, Transport, and Place & Compact ²				
<i>Foundation Improvements</i>				
Foundation Improvements (InSite Grouting, Solution Features Evaluation/Abatement) ³				
<i>Fill Material</i>				
Fill Material - Procure, Transport, Place Structural and Non-Structural Fill ⁴				
<i>Water Management (Stormwater and Ash Pond Dewatering⁵)</i>				
Water Treatment				
Storm & Contact Water Management				
<i>Site Maintenance During Construction & Restoration</i>				
Site Maintenance During Construction & Restoration				
<i>Contractor's Overhead & Profit</i>				
Quoted Overhead & Profit				
			Subtotal	
			Contingency	
			Total Closure Cost Estimate	

Notes:

1. Groundwater monitoring includes costs for conducting routine monitoring for App III & IV during the construction period.
2. Includes CCR (including 6-inch over-excavation) that will be hauled offsite for beneficial use or disposal.
3. Foundation Improvements include in-situ grouting of solution features and abatement per methodologies presented in the construction CQA Plan.
4. Includes fill material from on-site and off-site sources, evaluation for chemical and geotechnical properties, procurement, transportation, and placement per the CQA Plan.
5. Category includes the management of storm water, CCR contact water, and operations associated with the in-situ dewatering of CCR during the closure.

Total Ash Ponds Post Removal Cost Estimate

Item Description	Quantity	Unit	Unit Cost	Cost
Post Removal Cost				
Maintenance - Grass/Turf ¹				
Dike, Road, and Maintenance				
Environmental Monitoring				
Groundwater Monitoring & Reporting ²				
Sampling				
Reporting				
Laboratory Analysis				
Groundwater Well Maintenance and Abandonment				
Well Maintenance & Replacement ³				
Well Abandonment ⁴				
Subtotal				
Contingency				
5 Year Post Removal Cost Estimate				
Total Financial Assurance Required (Closure Cost + 5 Year Post Removal Cost)				

Notes:

1. Maintenance - Grass includes cost for mowing the site five times per year.
2. Assumes 14 wells + 3 QA/QC samples = 17 samples collected 2 times/year for 5 years. Includes cost for additional analyses for Alternate Source Demonstrations, resamples, and rush analysis. Assumes semi-annual reporting for 5 years.
3. Assumes 5% of miscellaneous costs in post-closure care are associated with well maintenance and replacement. Assumes, no additional wells will be installed during post-closure care since the site is in Assessment Monitoring.
4. Well abandonment includes 14 wells, 28 piezometers completed above grade, and 9 piezometers completed flush with the ground.

11. CLOSURE SCHEDULE

The activities and the associated timeframes are initial estimates. The schedule communicates anticipated activities and durations and the actual construction schedule and completion date is subject to change.

