GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Summary Page

Name of Facility GRP Madison Renewable Energy Facility, LLC

NPDES Permit No. GA0050283

This permit is a new issuance of an NPDES permit for GRP Madison Renewable Energy Facility, LLC. The facility discharges a maximum of 3.55 MGD treated boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater. This facility discharges to an unnamed tributary to Beaverdam Creek in the Savannah River Basin.

The permit was placed on public notice from December 16, 2020 to March 5, 2021.

Final Permit Determinations and Public Comments

☐ Final issued permit did not change from the draft permit placed on public notice.
☒ Public comments were received during public notice period.
☒ Public hearing was held.
☒ Final permit includes changes from the draft permit placed on public notice. See attached permit revisions and/or permit fact sheet revisions document(s)

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

EPD Director's Office
2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

Mr. Carey Davis
GRP Madison Renewable Energy Facility, LLC
P.O. Box 909
Colbert, Georgia 30628

02/16/2022

RE: Permit Issuance
GRP Madison Renewable Energy Facility, LLC
NPDES Permit GA0050283
Madison County, Savannah River Basin

Dear Mr. Davis:

Pursuant to the Georgia Water Quality Control Act, as amended, the Federal Clean Water Act, as amended, and the Rules and Regulations promulgated thereunder, we have issued the attached permit for the above-referenced facility.

Your facility has been assigned to the following EPD office for reporting and compliance. Signed copies of all required reports shall be submitted to the following address:

Environmental Protection Division
Watershed Protection Branch
Watershed Compliance Program
2 Martin Luther King Jr. Drive, Suite 1152
Atlanta, Georgia 30334

Please be advised that on and after the effective date indicated in the permit, the permittee must comply with all terms, conditions, and limitations of the permit. If you have questions concerning this correspondence, please contact Whitney Fenwick at (470) 607-3078 or *whitney.fenwick@dnr.ga.gov*.

Sincerely,

Richard E. Dunn
Director

RED:wf
Enclosure(s)
cc: EPD Watershed Compliance Program, Ms. Sarita Banjade (e-mail)
EPD Watershed Compliance Program, Ms. Shiva Hemati (e-mail)
EPD Watershed Planning and Monitoring Program, Mr. Josh Welte (e-mail)
EPD Watershed Planning and Monitoring Program, Mr. Tyler Parsons (e-mail)

Public Comments and EPD Responses on Draft NPDES Permit
GRP Madison Renewable Energy Facility, LLC – Permit No. GA0050283

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Due to the volume of comments received and the number of topics covered in a comment, EPD has summarized and grouped comments together based on the topic.

COMMENT RECEIVED	EPD RESPONSE
Permit Application	
I understand the need for wastewater release from the biomass plant, however as someone who lives in proximity to this release, I would like to see GRP Madison do a better job of treatment before release. I believe this application's data is inaccurate and must be resubmitted with accurate numbers. Submitting flawed science to simply check the boxes on the application should not be accepted.	The initial permit application was prepared in accordance with the requirements of NPDES Application Form 2D [EPA Form 3510-2D]. Form 2D requires the applicant to report estimated data for the parameters and pollutants listed in the application. During the period after the application was submitted, while the application was under review and the permit was being drafted, actual effluent discharge data from the facility became available. At this time, the Georgia Environmental Protection Division (EPD) requested that the applicant update the application with the actual effluent data. The revised and final iteration of the permit application was submitted on November 25, 2020 and included actual discharge data from the facility. EPD evaluated this data and drafted a permit in accordance with the rules and regulations.
Pollutants of Concern	
Toxics, Manmade Organic Compounds, and Toxicity	
Would it be possible that this waste would contaminate Beaver Dam Lake reservoir or some of its tributaries? Will it kill off the fish that are living in those streams ? Or possibly affect all the wildlife that visit those streams to get water to drink? The harmful chemicals will kill fish and local wildlife and will cause maladies and cancer to humans. To spread such poisonous discharge described in permit request throughout this already fragile riverine system would seriously affect all its ecosystems and creatures.	EPD is responsible for issuing protective, legal, and enforceable permits in accordance with the applicable regulations. An analysis was conducted on the pollutant data submitted with the permit application along with other supporting documents and appropriate effluent limits and permit conditions have been included to ensure the discharge, as permitted, will not cause or contribute to an instream water quality violation. The instream water quality criteria and reasonable potential procedures are in place to ensure substances cannot be discharged in amounts, concentrations or combinations which are harmful to humans, animals or aquatic life.

COMMENT RECEIVED	EPD RESPONSE
Toxicity of the effluent should be tested at least every quarter. The WET test should be run on a cumulative sample every three months and, given the potential for toxic constituents in the wastewater, a single failure of the WET test should initiate a toxicity identification evaluation and a toxicity reduction evaluation.	Whole effluent toxicity (WET) testing is included in NPDES permits when a parameter is identified as a pollutant of concern but there is no instream numeric water quality standard. Additionally, whole effluent toxicity testing is used to ensure there are no additive or synergistic effects of multiple pollutants in an effluent. In accordance with EPD's *Whole Effluent Toxicity (WET) Strategy* (2001), major industrial facilities must complete two WET tests during the term of the permit. Industrial discharges are classified as major facilities on the basis of the number of points accumulated using the *NPDES Permit Rating Work Sheet* (https://www.epa.gov/tx/npdes-permit-rating-worksheet-0). The worksheet evaluates the significance of a facility using several criteria, including toxic pollutant potential, flow volume, and water quality factors such as impairment of the receiving water or proximity of the discharge to coastal waters. As this is a new permit, EPD has required that this testing take place within 12 months of the first discharge.
Molybdenum should be tested and included in the discharge limits	Form 2D [EPA Form 3510-2D] requires the applicant to report estimated data for the parameters and pollutants listed in the application. Based on the facility's operations, the applicant did not indicate that molybdenum was believed present in the effluent, hence molybdenum has not been identified as a pollutant of concern and is not included in the permit.
The receiving stream is already impaired and the addition of chemicals such as cyanide, chloroform, phosphorous, ammonia into Beaverdam Creek which then flows into the Broad River through Watson's Mill State Park could be dangerous to human health and the environment.	The receiving stream is identified on EPDs 303(d) List as impaired for sediment (biota impacted). The receiving stream is not listed as impaired for cyanide, chloroform, phosphorus, or ammonia. Further, effluent limitations have been included in the permit to limit the concentrations of these parameters where EPD's analysis indicated they were necessary to protect the instream water quality standards (See EPD's response above).

COMMENT RECEIVED	EPD RESPONSE
Because of its three carbon chlorine bonds, chloroform is difficult to incinerate and would survive an inefficient incineration, and like ammonia, most of the chloroform would have escaped in the vapor phase. But some might have bound to the equipment and be present in the blowdown. However, I would hope that the burning of railroad ties has been discontinued and that there will be no chloroform in the wastewater in the future and that the chloroform that was there has been eliminated. If there is still chloroform in the wastewater, I recommend that the plant undergo a thorough cleaning. I assume that the cyanide is from the same source. However, cyanide is water soluble and should be gone by now if the plant has gotten rid of all of its railroad ties and their residue. Any cyanide in the wastewater should also be a call for a thorough cleaning of the plant.	Based on information provided by the facility, the burning of railroad ties has been discontinued at the facility. Per the facility's analysis, the presence of chloroform may be present in the effluent due to the use of chlorine in the cooling tower. Due to the presence in the discharge, chloroform and cyanide have been identified as pollutants of concern and are both limited in the permit to ensure the protection of instream water quality standards. In addition to wastewater treatment, best management practices may be employed by the facility, if needed to comply with the water-quality based effluent limitations.
Nonconventional Pollutants (Nutrients)	
1. The extra nutrients will cause an algal growth issue, and those toxins produced by cyanobacteria blooms can have some very serious consequences on human health as well as fish and other animals. This will make those waters unsafe for recreational purposes throughout many areas in the state and will impair these waterways for years to come. The 2020 appearance of the "retention pond" at outfall 001 indicates significant algal growth is occurring in that pond (see Google Maps). GRP Madison reports that the average concentrations of phosphorus and nitrogen sources at that outfall are 0.095 and <0.8 mg/L, respectively. If these concentrations of phosphorus and nitrogen are supporting excessive algal growth in the "retention pond", then the limits for phosphorus and nitrogen concentrations	EPD is not aware of an acute algal growth problem in the Broad River watershed. The permitted outfalls discharge to tributaries of Beaverdam Creek. There is no numeric water quality standard for phosphorus or ammonia in Beaverdam Creek or its tributaries. However, there are numeric standards for chlorophyll *a* protecting the lakes and estuaries. As Beaverdam Creek and its tributary are freshwater free flowing waterbodies, permit limits for nutrients were included in accordance with *Georgia's Plan for the Adoption of Water Quality Standards for Nutrients Revision 2.0* (July 2013) and EPD's *Strategy for Addressing Phosphorus in NPDES Permitting (2011*) (Phosphorus Strategy). Because numeric water quality standards for phosphorus have not been developed and the receiving stream is not listed as impaired for nutrients on the current 303(d) list, the Phosphorus Strategy requires new facilities discharging greater than 1 million gallons per day (MGD) are given a permit limit for total phosphorus of 1 mg/L (daily average).

COMMENT RECEIVED	EPD RESPONSE
should be lower than 0.095 and 0.8 mg/L, respectively, especially since the receiving, named stream is impaired for biota support. 2. Even if effluent concentration of phosphorus is limited to 1 mg/l, this would result in a substantial daily phosphorus loading to the downstream systems. It is well established that nutrient loading into streams and rivers causes algal growth that clogs stream sediments, impairs macroinvertebrate communities, depresses dissolved oxygen at night and elevates pH during the day - with the potential to lead to ammonia toxicity and fish death, especially during summer when streamflows are low. None of these effects appear to be considered in the permit application. Effects on aquatic life in Beaverdam Creek and the South Fork Broad River should be assessed before additional nutrient discharges are permitted into this system. 3. It is important to set a total phosphorus level that will be protective of aquatic life and users downstream. The Broad River watershed already has an acute algal growth problem even in flowing waters. Phosphorus levels must be kept below 0.1 mg/L in the streams to minimize algal problems. A permit level of 1.0 mg/L is too high, especially for an already impaired stream.	The facility identified phosphorus as present in both the stormwater (001) and wastewater (002) outfalls and as a result of EPD's review of the application, results of water quality modeling, and implementation of the Phosphorus Strategy, phosphorus limits have been included for outfall 001 and 002. Additionally, per the Phosphorus Strategy, orthophosphate monitoring has been included for both outfalls, as the discharge is upstream Clarks Hill Lake. The facility indicated a clarifier will be installed as needed for phosphorus control and to meet permit limits. The wasteload allocation does not indicate that water quality limits for oxygen-demanding substances are required to protect the instream criteria for dissolved oxygen.
Nonconventional Pollutants (Total Suspended Solids)	
1. The tributary is already listed as impaired for biota. 2. I am concerned that the reported springs in the present retention pond (outfall 001) will not allow for the settling of particulates before discharge. 3. The suspended solids in outfall 002 are rather high. These suspended solids should be filtered out of the wastewater before it is released into waters of the state because they are concentrated minerals that could be toxic to aquatic life in an already impaired stream.	The receiving stream is listed as impaired for sediment (biota impacted) on EPD's 303(d) List, however a total maximum daily load for the receiving stream has not yet been completed. The facility believes a naturally occurring spring may be present in the stormwater retention pond associated with outfall 001) due to the presence of water in the pond during periods of dry weather. The pond was documented as a stormwater pond in use on the property by a previous industrial facility. The application does not indicate that the

COMMENT RECEIVED	EPD RESPONSE
4. I am also concerned about the potential discharge of solids from the blowdown into the unnamed tributaries with low or intermittent flows.	presence of the spring will reduce the treatment capacity of the ponds in a way that could cause the facility to be unable to comply with the permitted effluent limits for the stormwater discharge. The proposed discharge must meet the permitted effluent limits at the compliance sampling location prior to discharging to the unnamed tributary to Beaverdam Creek. The proposed permit includes numeric effluent limitations to restrict the discharge of total suspended solids (TSS) for both outfalls (001 and 002). Additionally, a condition stating, "There shall be no discharge of floating solids or visible foam other than trace amounts." has also been included in Part I.A.1 and Part 1.A.2. of the proposed permit further protecting the applicable narrative water quality standards. Finally, as part of an agreement with a neighboring landowner regarding the rate of discharge at the facility, GRP Madison will install an outfall control structure (OCS) for outfall 001 in order to mitigate stormwater peak flows. The facility anticipates that the OCS will result in a reduction in TSS during and shortly after storm events because the flow rate will be reduced through the OCS and there will be greater residence time in the treatment pond prior to the discharge due to the storage capacity of the pond.
Oxygen-Demanding Parameters	
The data presented in the Permit application has several aspects that are concerning. At outfall 01, the maximum COD appears to be high for a small stream. TOC is also high, which could be contributing to the high COD. It appears that some treatment of the stormwater should be used to decrease the organic load to reduce the oxygen demand. At Outfall 02, the maximum COD is also high for a small stream.	Georgia does not have numeric water quality standards for chemical oxygen demand (COD) or total organic carbon (TOC). The wasteload allocation does not indicate that water quality limits for oxygen-demanding parameters, such as biochemical oxygen demand, COD or TOC are required to protect the instream criteria for dissolved oxygen.

COMMENT RECEIVED	EPD RESPONSE
I question whether there is enough aeration of the treated water to adequately minimize the effect on BOD.	
The fact that the maximum daily BOD and the average daily BOD are the same indicates to me that GRP Madison only measured the BOD once.	Section 1.10 of the fact sheet contained a typographical error that has now been corrected. Per the permit application dated November 25, 2020, available for review in Georgia's Electronic Online Submittal System (GEOS), submittal identification no. 462714, the reported BOD daily maximum concentration is 60.57 mg/L and the daily average is 26.39 mg/L.
Nonconventional Pollutants (Temperature)	
I am concerned about the temperature of the Outfall 02. The Permit application indicates average temperatures of 25 C or 77 F and a maximum of 36 C or 96 F.	The maximum temperature reported on the permit application for outfall 001 is 19.4 °C (66.92 °F) and the maximum temperature reported for outfall 002 is 20.4°C (68.72 °F). The application is available for review using GEOS, submittal identification no. 462714. The designated use of the receiving water body is fishing, secondary contact recreation that has an instream water quality standard for temperature of 90 °F and a delta 5 °F(intake/upstream vs. downstream). The reported temperatures were significantly below the instream water quality standards therefore temperature was not identified as a pollutant of concern and temperature limits were not included in the permit.
The report of a single water temperature for all four temperatures reported indicates a hurried measurement to fill in the blanks.	Application Form 2D [EPA Form 3510-2D] requires the applicant to report estimated data for the parameters and pollutants listed in the application. The application requires the submittal of summer and winter estimates. The temperate data for outfall 001 provided on the application is based on actual data collected from the GRP Franklin Renewable Energy Facility, LLC operating under NPDES permit no. GA0039292.

COMMENT RECEIVED	EPD RESPONSE
	The temperature data for outfall 002 provided on the application is based on data from the Lumberton, North Carolina facility.
Nonconventional Pollutants (Oil and Grease)	
There is a threat of the Oil and Grease from the plant's stormwater runoff to these waters.	Oil and grease was identified as a potential pollutant of concern in the stormwater discharged via outfall 001. The long-standing technology based effluent limit of 10 mg/L daily average is representative of the concentration at which a visible oil sheen is likely to occur and may have the reasonable potential to cause or contribute to a violation of the narrative water quality standard. Therefore, effluent limitations of 10 mg/L daily average and 15 mg/L daily maximum have been added to the permit and has been added to the permit to protect the narrative instream water quality standard.
Wastewater Treatment	
1. GRP wants to dump their untreated wastewater and stormwater into the state's waterways. This waste contains numerous chemicals including chloroform, phosphorus and cyanide. This toxic waste will flow through our local streams, the Watson Mill State Park and the Savannah River Basin. Please deny this application. 2. GRP's waste water needs to be treated to remove the chemicals before it is released back into the watershed. 3. Conduct more regular and vigorous surveys of the steam plant, as well, because of the concerning and surprising amounts of dangerous pollutants found in their waste. The plant is not properly treating its wastewater.	The permit application and draft permit do not propose discharges of untreated wastewater. The application indicates that wastewater will be treated by sedimentation, oil/water separation, and neutralization. Additionally, a clarifier will be installed for the control of phosphorus if needed. There are various types of wastewater treatment technologies available for industrial discharges. There is no evidence to suggest that treatment using fungal mycelia is necessary for the control of pollutants in the wastewater discharge.

COMMENT RECEIVED	EPD RESPONSE
4. Regarding biomass wastewater dumping into Beaverdam Creek, I suggest transformation of wastewater prior to any dumping into aquatic ecosystems. The chemical transformation of toxins found in biomass facilities' wastewater can be performed by fungal mycelia.	
Antidegradation/Alternatives Analysis	
There are viable wastewater treatment alternatives that should be pursued to provide safeguards for the health and safety of the people of Georgia, and for the aquatic ecosystems that stand to be affected should the permitting move forward.	Wastewater treatment alternatives were evaluated by the facility and summarized in the Industrial Antidegradation Analysis (refer to Appendix D of the permit fact sheet).
Please seek alternate solutions, for example, constructing wetland cells for the treatment of the toxic wastewater. Using the right kinds of plants, the nutrients in the water could be reduced. Allowing for settling time in the wetland cells, the TSS could be allowed to settle out. By running all of the wastewater through these cells GRP Madison could reduce the phosphorus, ammonia, BOD, and TSS in the water. The residence time in the wetland would allow the chlorine and chloroform more time to dissipate and the cyanide more time to oxidize. A well-designed and well-constructed wetland could help reduce all of the potential problems with GRP's wastewater.	The construction of a wetland for treatment would still result in the need for an NPDES discharge permit, and therefore is not considered an alternative to a direct discharge under EPD's *Antidegradation Implementation Guidelines* (February 2019). The facility has not indicated that additional treatment, such as a constructed wetland is needed in order to meet the permitted effluent limitations. EPD requires all permitted facilities to comply with their permit limits at all times.
They should be required to pretreat their wastewater before it is taken to the treatment plant.	The pretreatment of industrial discharges to Publicly Owned Treatment Works (POTWs) are outside of the scope of this NPDES permit.
Antidegradation laws require a permittee not to exacerbate the issues of an existing stream, however that law is not being met with this permit.	Georgia's Antidegradation regulation [Georgia Rules and Regulations for Water Quality Control Chapter 391-3-6-.03(2)(b)] require that

COMMENT RECEIVED	EPD RESPONSE
Alternatives to direct discharge were analyzed, and deemed possible, however GRP states the cost of not polluting our creek is too high. With little dilution of the wastewater before it reaches Beaverdam Creek, it is likely that there will still be a significant BOD load when it reaches Beaverdam Creek adding to the problems in that impaired stream. Antidegradation requirements should prevent that from happening.	facilities requesting new or expanded wastewater point source discharges into any surface water perform an antidegradation analysis to demonstrate that the discharge is necessary to accommodate important social or economic development and to demonstrate that no reasonable alternatives exist that would provide the needed wastewater capacity without authorizing a new or expanded wastewater discharge into surface waters. This regulation and associated policy do not prohibit all new and expanding discharges, but instead provides specific criteria which must be evaluated in determining if alternatives to discharge exist. The facility has provided an Industrial Antidegradation Analysis (refer to Appendix D of the permit fact sheet) and based on this information EPD has determined that alternatives to discharge are not able to be put into practice or are not economically viable. Further, the analysis demonstrated that the discharge is necessary to accommodate important economic or social development.
1. GRP has an alternative solution which they have been using for the past year, haul their wastewater to a wastewater treatment plant that was designed for that purpose such as the ones in Elberton. Additionally, GRP should be required to pre-treat the water and remove the pollutants, not just "adjust the pH, before the wastewater is hauled to the wastewater facility. Hauling 25,000 gallons/day to three different locations is just a way to escape the pre-treatment requirement as I understand it, another money saver for GRP. 2. How much does this save the company? I've read that this change might save the company $5,000 per month. If this is about saving money, how much would it cost each of GRP's customers to cover this $5k bill? If this plant provides power for up to 20,000 customers, the increased cost would only be twenty-five cents per month, per customer, added onto their monthly bill, to continue hauling the water to the current disposal well/site.	The disposal alternative that GRP Madison is currently utilizing, hauling wastewater to multiple publicly and privately-owned treatment facilities, was determined to not be economically viable. The only treatment facilities within the vicinity of the facility which can accept the total daily average wastewater flow from GRP Madison (approximately 205,000 gallons per day) are Aqua Terra (57.4 miles away) and the City of Elberton (two treatment facilities 23.4 miles and 23.3 miles away). Based on information provided by facility, the cost of trucking to Aqua Terra was estimated to be approximately $47,304,000/year. The cost of trucking to the City of Elberton was estimated to be approximately $8,979,000/year. These costs are not considered to be economically viable. Comparatively, treatment and direct discharge at the facility was estimated to cost approximately $185,800/year.

COMMENT RECEIVED	EPD RESPONSE
3. Contrary to its claims that it lacks the liquidity necessary to pursue alternative methods for disposing of its wastewater, i.e., onsite treatment and deep well injection, GRP appears to possess more than adequate funding for such an approach. As was reported by Reuters news service last summer, GRP secured a "green loan" of $525 million for its operations. EPD should press GRP for evidence of its liquidity resulting from this loan, and if it is revealed that GRP does in fact possess sufficient funding, EPD will have additional justification for denying the NPDES Permit Application.	The difference between direct discharge and hauling the wastewater to Aqua Terra would be approximately $379,000/month. The difference between direct discharge and hauling the wastewater to the City of Elberton would be approximately $733,000/month. GRP Madison also evaluated Underground Injection Control as part of the Antidegradation Analysis. The facility is expected to discharge an average of 205,000 gallons per day of process water from outfall 002. Underground injection control (discharge to a non-domestic septic system) is not feasible for this volume of water. The facility also evaluated the alternative of land application. Based on the dominant soils in the area, they estimated a site in the vicinity of the facility would have a maximum estimated hydraulic loading rate of 2.13 in/week. Considering the wastewater flow from the facility, 27.31 acres of land at a cost of approximately $720,000 would be required for treatment and disposal. Operating costs would require an additional 5,767,000/year including trucking, operation, and maintenance. As a result, this alternative was deemed infeasible.
I believe that a more suitable way to dispose of the wastewater would be for the energy plant to apply the wastewater to their own property by irrigation. My calculations show that if 270,000 gallons of water per day is applied to 50 acres of pasture or forest land then only about 1 inch of water per week would be applied to the land. This is well within the amount that Piedmont soils can handle without runoff.	The Antidegradation Analysis (refer to Appendix D of the permit fact sheet) indicates that the approximate acreage required for the treatment of 205,000 gallons/day, including the required buffer area is approximately 27.31 acres. The initial costs of land acquisition and installation of a land application system was estimated to be approximately $720,000 and operating costs including trucking were estimated at approximately $5,767,000/year. These costs are not considered to be economically viable. Comparatively, treatment and

COMMENT RECEIVED	EPD RESPONSE
	direct discharge at the facility was estimated to cost approximately $185,800/year.
Stream Flow and Dilution Factor	
Will the unnamed tributary of Beaverdam Creek will have sufficient flow to properly dilute and assimilate the discharge, particularly from the boiler blowdown? What happens when there is a serious drought, as we know there will be? Water that is released will cause a higher concentration of toxins downstream and locally. Outfall 002, located about 1000 ft northeast of outfall 001 at another low point on the property, apparently creates another unnamed tributary which flows into unnamed tributary 001 about 1500 feet onto the adjacent property. The combined streams then flow into another small unnamed tributary about half a mile downstream and that unnamed tributary flows into Beaverdam Creek another mile downstream. None of these unnamed tributaries to Beaverdam Creek have sufficient average flow to adequately dilute the pollutants emanating from GRP Madison.	The U.S. *Environmental Protection Agency NPDES Permit Writers'* Manual, 2010 (EPA-833-K-10-001) outlines the requirements for evaluating critical conditions in the development of water quality-based limits. Georgia's Rules and Regulations for Water Quality Control (Rules), Chapter 391-3-6-.06(4)(d)5 further require that the critical conditions used for the reasonable potential analysis are the 7Q10 (the lowest 7-day average flow that occurs, on average, once every 10 years) and 1Q10 (the lowest 1-day average flow that occurs, on average once every 10 years). EPD calculates the instream concentration of a chemical constituent by dividing the effluent concentration by the appropriate dilution factor. To ensure the most conservative values are used, the maximum facility flow and the 7Q10 and 1Q10 are used for calculating this instream concentration. The 7Q10 is used for comparison against the chronic water quality criteria and the 1Q10 is used for comparison against the acute water quality criteria. The instream concentration is then compared against the instream criteria. If the calculated instream concentration is greater than 100% of the acute criteria or 50% of the chronic criteria, effluent limits are included in the permit. (Refer to Appendix C of the permit fact sheet for calculations).
GRP is only allowed to dispose of 25,000 gallons a day per facility and the rest is sent to Aqua Terra, yet the permit allows them up to 3.5MGD.	Significant industrial users (SIU), as defined in the federal pretreatment regulations at 40 CFR 403, must obtain a pretreatment permit to discharge

COMMENT RECEIVED	EPD RESPONSE
I hear that the actual wastewater is 200,000 gallons. That is a significant difference. Which is it?	to a Publicly Owned Treatment Works (POTW) if one of several criteria are met. One of the criteria is the discharge of 25,000 gallons per day or more. Aqua Terra is a privately-owned facility and not a POTW, and therefore a pretreatment permit is not required under federal or State regulations to send wastewater to the Aqua Terra facility. As reported by the facility, the total design flow of the facility is 3.55 MGD; however, the estimated annual average daily flow is 0.273 MGD.
Drinking Water	
1. Dumping wastewater into vulnerable watersheds, from which your fellow man drink could not possibly end well. 2. My well water could be affected. 3. I am a resident of Oglethorpe county who depends on well water and I do not want GRP dumping their wastewater into Beaverdam Creek and the Savannah River Basin. 4. Chloroform, cyanide, oil, as well as excessive phosphorous and ammonia are not generally found in "good, potable water". Certainly, with a little encouragement from DNR the folks at this biomass plant will find a solution that doesn't include potentially polluting our drinking water, even if it means that they charge a slightly higher rate.	The unnamed tributary to Beaverdam Creek and Beaverdam Creek have designated uses of fishing and secondary contact recreation. The waterbodies are not designated as drinking water. The proposed discharge must comply with the requirements of the Clean Water Act and State regulations authorizing the discharge of treated wastewater. The discharge is not required to be treated to drinking water standards, and the Safe Drinking Water Act is not applicable to the proposed discharges from this facility. The proposed NPDES permit does not authorize any discharges to groundwater.
Stormwater Retention Pond	
1. The GRP Madison Renewable Energy facility is located on a fairly restricted property sitting on the top of a small hill. The property was formerly occupied by a truss manufacturing facility. During the period of truss manufacture, I informed EPD that the truss	The facility believes a spring may be present in the stormwater retention pond associated with outfall 001 due to the presence of water in the pond during periods of dry weather. Based on historical records, the pond was documented as a stormwater pond in use on the property by a previous

COMMENT RECEIVED	EPD RESPONSE
manufacturer had dug their retention pond into an existing spring which was the source of the small unnamed tributary now labeled as outfall 001. Because the spring kept the retention pond filled with water, it could not function effectively as a retention pond. I am concerned that the reported springs in the present retention pond will not allow for the settling of particulates before discharge. In addition, I am concerned about the potential pollution of the spring itself. 2. I am entirely against GRP's permit for dumping their waste water. This facility was not properly engineered for waste water or storm water runoff due to their ineffective retention pond on site. Runoff from GRP already is a hazardous environmental issue on Farm Rd. within a quarter of a mile from the facility.	industrial facility. The application does not indicate that the presence of the spring will reduce the treatment capacity of the ponds in a way that could cause the facility to be unable to comply with the permitted effluent limits for the stormwater discharge. The proposed discharge must meet the permitted effluent limits at compliance sampling location prior to discharging into the waters of the State. Additionally, as part of an agreement with a neighboring landowner regarding the rate of discharge at the facility, GRP Madison will install an outfall control structure (OCS) for outfall 001 in order to mitigate stormwater peak flows. The facility anticipates that the OCS will result in a reduction in TSS during and shortly after storm events because the flow rate will be reduced through the OCS and there will be greater residence time in the treatment pond prior to the discharge due to the storage capacity of the pond.
Recreation and Wildlife	
1. The fish fauna of the Broad River System, which includes Beaverdam Creek, is diverse and sensitive to pollution. The robust redhorse sucker is one of the unique fish species that lives in the Broad River. The Georgia DNR lists the robust redhorse as endangered. It is one of the most threatened species and Georgia and North America. The wastewater discharge from Georgia Renewable Power would directly negatively impact the robust redhorse sucker and well as many other sensitive species in the river system.	EPD does not believe that the proposed discharge, as permitted from GRP Madison has the potential to negatively impact on robust redhorse, Bartram's Bass, or Shoal Lily populations in the South Fork Broad River due to the distance of these species downstream of the facility, the dilution of the South Fork Broad River, and the inclusion in the permit of effluent limitations which are protective of human health and the environment in accordance with Georgia's Rules and Regulations for Water Quality Control (Rules), Chapter 391-3-6
2. The wastewater discharge into Beaverdam Creek empties into the South Fork of the Broad River, which is the habitat of Bartram's Bass, a unique species that occurs only in the Savannah River basin in western South Carolina and eastern Georgia.	Minnow Environmental Inc., on behalf of Veolia Energy Operating Services and GRP Madison, reviewed the potential effects of the proposed effluent discharge on the robust redhorse (see Appendix E of the permit fact sheet). The results of the evaluation, including a CORMIX

COMMENT RECEIVED	EPD RESPONSE
The wastewater will threaten an endangered population of Shoal Lilies near Anthony Shoals.	analysis performed using the facility's projected daily average flow and the 7Q10 of the South Fork Broad River suggests that even under critical conditions the effluent will not have an adverse impact on robust redhorse in the South Fork Broad River or further downstream. The Georgia Wildlife Resource Division, of the Georgia Department of Natural Resources reviewed the analysis and concurred with the results.
Will there be downstream monitoring from this facility? Will there be any proactive measures by EPD to reduce the risk of any environmental impact? Or will it all be reactive once an event has happened?	The proposed permit does not include downstream monitoring at this time; however, the permit can be modified to include ambient monitoring if needed. An analysis was conducted on the pollutant data submitted with the permit application along with other supporting documents and appropriate permit conditions have been developed to ensure the discharges, as permitted will not cause or contribute to an instream water quality violation.
I live in Elbert County on the Broad River, upstream from this plant, but we swim and boat in the water, as I'm sure thousands do downstream of GRP. Please, for the health our beautiful river, deny this permit.	EPD is responsible for issuing protective, legal, and enforceable permits in accordance with the applicable regulations. An analysis was conducted on the pollutant data submitted with the permit application along with other supporting documents and appropriate effluent limits and permit conditions have been included to ensure that the discharge, as permitted, will not cause or contribute to an instream water quality violation and is protective of the designated uses. Numeric and narrative limitations have been included in the proposed permit to protect the designated use of the unnamed tributary to Beaverdam Creek and Beaverdam Creek.

COMMENT RECEIVED	EPD RESPONSE
Other	
I object to the method used for calculating TBELs where standards do not exist (page 8 of the Fact Sheet, section 4.8, paragraph 2). According to this explanation, the TBEL calculations are based solely on industry records with no considerations for potential effects on aquatic life or users downstream.	The NPDES regulations at 40 C.F.R. §125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. Technology-Based Effluent Limitations (TBELs) are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and Water-Quality-Based Effluent Limitations (WQBELs).
They have polluted the air, land, and water; made people sick; killed fish; and created so much noise that people are unable to use and enjoy their homes.	Comments regarding air pollution control or noise should be provided to the appropriate regulatory authorities, as they are outside of the scope of the NPDES permitting process.
Complaint 91849 was made when residents began finding evidence of pollution in their ponds and creek nearby. Report revealed drains were not present on site-map, contaminated condensate was found onsite, the discharge of dust suppression water through stormwater outfalls, and facility could not provide record of where wastewater was taken to be treated.	EPD received complaint no. 91849 on December 5, 2019. The complaint alleged that the facility was transferring water from the fire prevention storage pond to the stormwater retention pond and that the stormwater pond was discharging via outfall 001. EPD investigated this complaint and on June 18. 2020, EPD executed an enforcement action with GRP Madison, Consent Order EPD-WP-8932 (Order). The Order references this specific complaint as one (1) of 25 citizen complaints received between November 24, 2019 and April 29, 2020. The Order included civil penalties for the alleged violations. The penalties included a payment to the State of Georgia Department of Natural Resources in the sum of $16,800; prohibition of discharge of wastewater via outfall 001 or 002 without an NPDES wastewater permit; cessation of use of the evaporators in the fire pond unless they are

COMMENT RECEIVED	EPD RESPONSE
	included in an issued NPDES wastewater permit; monthly submittal of manifests for off-site wastewater disposal; demonstration of capacity of stormwater pond; and written management plan for ongoing management of wastewater and stormwater.
GRP has committed numerous violations of clean water and clean air regulations at both its Madison and Franklin County, Georgia operations, which violations have polluted creeks and streams, killed over 2,100 fish, and damaged private property. These incidents resulted in numerous consent orders with and fines paid to EPD, as well as a private settlement where GRP paid over $850,000.00 to neighbors whose property was polluted with stormwater. In addition, TPM has been cited for illegally dredging and filling wetlands at its mine site in Florida. This pattern of violations is additional evidence that GRP is unable to operate cleanly or safely and is undeserving of this NPDES Permit.	This response to comments pertains to the issuance of NPDES Permit No. GA0050283 for GRP Madison. Comments regarding the GRP Franklin facility (NPDES Permit No. GA0039292) are outside the scope of this permitting action. The GRP Franklin NPDES permit was issued on September 24, 2021. The final permit package and response to comments can be viewed on EPD's website at the following link: https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/watershed-protection-branch-permit-and#permits/viewpermitdetails/560aeb5c1ad87cb84bf67e1e/ Comments regarding air pollution control, private settlements, and violations occurring at other facilities and/or in other states are outside of the scope of this NPDES permit process.
GRP Madison's fuel supply is unknown – since they are no longer allowed to legally burn creosote, they are bringing fuel in from as far away as New Jersey. Supposedly construction and demolition waste, but they have not identified those exact contents.	As reported by GRP Madison to EPD, the fuel source at the facility is virgin biomass and clean cellulosic biomass from clean construction and demolition wood. GRP Madison is permitted for natural gas but does not fire natural gas during startup. Part II.A.1.a.2. of the proposed permit requires the permittee provide EPD at least 90 days advance notice of any planned physical alterations or additions to the permitted facility which could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

COMMENT RECEIVED	EPD RESPONSE
	The permittee is not authorized to make any changes or conduct any activities requiring this notification without approval from EPD.
Where was the environmental impact study? Why was this not addressed at the beginning?	Federal agencies prepare an Environmental Impact Statement (EIS) if a proposed major federal action is determined to significantly affect the quality of the human environment. As this permit issuance is not a federal action an EIS is not required.
1. OCGA 12-5-23, Georgia's Bad Actor Law, provides that EPD can deny issuance of an NPDES permit to an applicant with a history of environmental violations and/or misrepresentations. GRP and its affiliate have a lengthy history of committing environmental violations and material misrepresentations. Accordingly, EPD should exercise its authority and deny GRP'spermit application. 2. This company's reckless actions, exemplified by their burning of arsenic and creosote laden RR cross-ties, show that they should not be permitted to continue operations.	EPD has evaluated the submitted permit application and supporting documentation and proposed an NPDES permit in accordance with applicable Federal and state regulations ensuring the permit is legal, enforceable, and protective of water quality standards, human health, and the environment. The facility as indicated they do not use railroad crossties as fuel, in accordance with O.C.G.A. § 12-9-7(c)(3.1) and their Air Quality Permit No. 4911-195-0020-E-01-4, issued August 05, 2020.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Revisions to Draft Permit

Name of Facility GRP Madison Renewable Energy Facility, LLC

NPDES Permit No. GA0050283

Were there any revisions between the draft proposed NPDES permit fact sheet placed on public notice and the final proposed NPDES permit fact sheet? If yes, specify:

☒ Yes ☐ No

Part I.D.2.

- Updated to the new e-Reporting Phase II compliance date of December 21, 2025, per 40 CFR 127.16. The revision to the rule became effective January 4, 2021.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Revisions to Draft Fact Sheet

Name of Facility GRP Madison Renewable Energy Facility, LLC

NPDES Permit No. GA0050283

Were there any revisions between the draft proposed NPDES permit fact sheet placed on public notice and the final proposed NPDES permit fact sheet? If yes, specify:

☒ Yes ☐ No

Section 1.10

- Corrected a typographical error to correct information reported on the application. The BOD daily maximum concentration was updated to 60.57 mg/L and daily average concentration to 26.39 mg/L.

Fact Sheet Appendices

- Added Appendix D - Antidegradation Analysis
- Added Appendix E - Robust Redhorse Analysis

Permit No. GA0050283
Issuance Date: 02/16/2022

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

National Pollutant Discharge Elimination System Permit

In accordance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the State Act; the Federal Water Pollution Control Act, as amended (33 U.S. C. 1251 et seq.), hereinafter called the Federal Act; and the Rules and Regulations promulgated pursuant to each of these Acts,

GRP Madison Renewable Energy Facility, LLC
P.O. Box 909
Colbert, Georgia 30628

is issued a permit to discharge from a facility located at

GRP Madison Renewable Energy Facility, LLC
268 Office Drive
Colbert, Georgia 30628
Madison County

to receiving waters

Unnamed tributaries to Beaverdam Creek (001 and 002) in the Savannah River Basin.

in accordance with effluent limitations, monitoring requirements and other conditions set forth in the permit.

This permit is issued in reliance upon the permit application signed on November 25, 2020, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This permit shall become effective on March 01, 2022.

This permit and the authorization to discharge shall expire at midnight February 28, 2027.

STATE OF GEORGIA
CONSTITUTION
WISDOM
JUSTICE
MODERATION
1776

Richard E. Dunn, Director
Environmental Protection Division

PART I

A.1. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from outfall number 001[1] (34.038762, -83.192422) – Stormwater.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[2]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Month	Estimation[3]	Final Effluent
Oil and Grease			10	15	1/Month	Grab	Final Effluent
Copper, total			Report	Report	1/Month	Grab	Final Effluent
Nickel, total			Report	Report	1/Month	Grab	Final Effluent
Zinc, total			Report	Report	1/Month	Grab	Final Effluent
Total Phosphorus			1.0	1.5	1/Month	Grab	Final Effluent
Orthophosphate, as P			Report	Report	1/Month	Grab	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored once per month by grab sample.

[1] There shall be no discharge of floating solids or visible foam other than trace amounts.

[2] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[3] Stormwater flow estimation will be calculated using the formula:

$$\text{Area ft}^2 \times \text{Rainfall (in)} \div 12 \left(\frac{\text{in}}{\text{ft}}\right) \times \text{Runoff Coefficient} \times 7.481 \left(\frac{\text{gallon}}{\text{ft}^3}\right)$$

An alternative method for determining flow rate may be used upon EPD approval.

A.2. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from outfall number 002[1] (34.040836, -83.190083) – Boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[2]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Estimation[3]	Final Effluent
Total Suspended Solids			30	100	1/Week	Grab	Final Effluent
Oil and Grease			15	20	1/Week	Grab	Final Effluent
Total Phosphorus			1.0	1.5	1/Month	Grab	Final Effluent
Orthophosphate, as P			Report	Report	1/Month	Grab	Final Effluent
Chloroform	3.93	5.85	0.471	0.706	1/Week	Grab	Final Effluent
Copper, total	0.011	0.014	0.007	0.009	1/Week	Grab	Final Effluent
Cyanide	0.043	0.065	0.005	0.008	1/Week	Grab	Final Effluent
Zinc, total	0.180	0.180	0.114	0.114	1/Week	Grab	Final Effluent
Temperature (°F)	Report	Report			1/Month	Grab	Final Effluent
Chronic Whole Effluent Toxicity[4,5]			Report	Report	See Footnote 4	24-Hour Composite	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored once per week by grab sample.

[1] There shall be no discharge of floating solids or visible foam other than trace amounts.

[2] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[3] Flow estimation will be calculated using the formula:
Cooling tower flow + Other process wastewater flow + Stormwater flow

Where stormwater flow estimation is calculated using the formula:
Area ft^2 × Rainfall (in) ÷ 12 $\left(\frac{in}{ft}\right)$ × Runoff Coefficient × 7.481 $\left(\frac{gallon}{ft^3}\right)$

An alternative method for determining flow rate may be used upon EPD approval.

[4] Within 6 months of the first discharge event, the permittee shall conduct a chronic WET test and shall submit the test result with the following month DMR after the test has been completed in accordance with Part I.D of this permit.

Within 6-12 months of the first discharge event, the permittee shall conduct an additional chronic WET test and submit the test result with the following month DMR after the test has been completed in accordance with Part I.D of this permit.

The testing must comply with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods of Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4^{th} edition, U.S. EPA, 821-R-02-013, October 2002. Definitive test must be run on the same sample concurrently using both an invertebrate species (i.e., Ceriodaphnia dubia) and a vertebrate species (i.e., Fathead Minnow, Pimephales promelas) and shall include a dilution equal to the facility's instream waste concentration (IWC) of 100%.

[5] If two WET tests are failed, the permittee will be required to complete a Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) and submit the TIE/TRE to EPD no later than 6 months following the date of the second WET test failure.

A.3. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internal outfall number 002A[1,2] – Cooling tower discharge.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[3]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Continuous	See footnote 4
Free Available Chlorine			1.0	1.0	1/Week	Grab	See footnote 4
Chromium, total			0.2	0.2	1/Week	Grab	See footnote 4
Zinc, total			1.0	1.0	1/Week	Grab	See footnote 4

[1] There shall be no discharge of floating solids or visible foam other than trace amounts.

[2] See Special Conditions, Part III.C. of this permit.

[3] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[4] The sample location shall be at the cooling tower discharge location prior to mixing with any other waste stream.

B. Monitoring

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. The permittee shall maintain a written sampling plan and schedule onsite.

2. Sampling Period

a. Unless otherwise specified in this permit, quarterly samples shall be taken during the periods January-March, April-June, July-September, and October-December.

b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.

c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. Monitoring Procedures

Analytical methods, sample containers, sample preservation techniques, and sample holding times must be consistent with the techniques and methods listed in 40 CFR Part 136. The analytical method used shall be sufficiently sensitive. EPA-approved methods must be applicable to the concentration ranges of the NPDES permit samples.

4. Detection Limits

All parameters will be analyzed using the appropriate detection limits. If the results for a given sample are such that a parameter is not detected at or above the specified detection limit, a value of "NOT DETECTED" will be reported for that sample and the detection limit will also be reported.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling or measurements, and the person(s) performing the sampling or the measurements;

b. The dates and times the analyses were performed, and the person(s) performing the analyses;

c. The analytical techniques or methods used;

d. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased monitoring frequency shall also be indicated. EPD may require, by written notification, more frequent monitoring or the monitoring of other pollutants not required in this permit.

7. Records Retention

The permittee shall retain records of all monitoring information, including all records of analyses performed, calibration and maintenance of instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a minimum of three (3) years from the date of the sample, measurement, report or application, or longer if requested by EPD.

8. Penalties

The Federal Clean Water Act and the Georgia Water Quality Control Act provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine or by imprisonment, or by both. The Federal Clean Water Act and the Georgia Water Quality Control Act also provide procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director of EPD

C. Definitions

1. The "daily average" mass means the total discharge by mass during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days sampled during the calendar month when the measurements were made.

2. The "daily maximum" mass means the total discharge by mass during any calendar day.

3. The "daily average" concentration means the arithmetic average of all the daily determinations of concentrations made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample.

4. The "daily maximum" concentration means the daily determination of concentration for any calendar day.

5. A “calendar day” is defined as any consecutive 24-hour period.

6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

7. "Severe property damage" means substantial physical damage to property, damage to treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

8. “EPD” as used herein means the Environmental Protection Division of the Department of Natural Resources.

9. “State Act” as used herein means the Georgia Water Quality Control Act (Official Code of Georgia Annotated; Title 12, Chapter 5, Article 2).

10. “Rules” as used herein means the Georgia Rules and Regulations for Water Quality Control.

D. Reporting Requirements

1. The permittee must electronically report the DMR, OMR and additional monitoring data using the web based electronic NetDMR reporting system, unless a waiver is granted by EPD.

a. The permittee must comply with the Federal National Pollutant Discharge Elimination System Electronic Reporting regulations in 40 CFR §127. The permittee must electronically report the DMR, OMR, and additional monitoring data using the web based electronic NetDMR reporting system online at: https://netdmr.epa.gov/netdmr/public/home.htm

b. Monitoring results obtained during the calendar month shall be summarized for each month and reported on the DMR. The results of each sampling event shall be reported on the OMR and submitted as an attachment to the DMR.

c. The permittee shall submit the DMR, OMR and additional monitoring data no later than 11:59 p.m. on the 15th day of the month following the sampling period.

d. All other reports required herein, unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

2. No later than December 21, 2025 the permittee must electronically report the following compliance monitoring data and reports using the online web based electronic system approved by EPD, unless a waiver is granted by EPD:

a. Sewer Overflow/Bypass Event Reports;
b. Noncompliance Notification;
c. Other noncompliance; and
d. Bypass

3. Other Reports

All other reports required in this permit not listed above in Part I.D.2 or unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

4. Other Noncompliance

All instances of noncompliance not reported under Part I.B. and Part II. A. shall be reported to EPD at the time the monitoring report is submitted.

5. Signatory Requirements

All reports, certifications, data or information submitted in compliance with this permit or requested by EPD must be signed and certified as follows:

a. Any State or NPDES Permit Application form submitted to the EPD shall be signed as follows in accordance with the Federal Regulations, 40 C.F.R. 122.22:

1. For a corporation, by a responsible corporate officer. A responsible corporate officer means:

i a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or

ii. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

3. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.

b. All other reports or requests for information required by the permit issuing authority shall be signed by a person designated in (a) above or a duly authorized representative of such person, if:

1. The representative so authorized is responsible for the overall operation of the facility from which the discharge originates, e.g., a plant manager, superintendent or person of equivalent responsibility;

2. The authorization is made in writing by the person designated under (a) above; and

3. The written authorization is submitted to the Director.

c. Any changes in written authorization submitted to the permitting authority under (b) above which occur after the issuance of a permit shall be reported to the permitting authority by submitting a copy of a new written authorization which meets the requirements of (b) and (b.1) and (b.2) above.

d. Any person signing any document under (a) or (b) above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

PART II

A. Management Requirements

1. Notification of Changes

a. The permittee shall provide EPD at least 90 days advance notice of any planned physical alterations or additions to the permitted facility that meet the following criteria:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b);

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1); or

3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. The permittee shall give at least 90 days advance notice to EPD of any planned changes to the permitted facility or activity which may result in noncompliance with permit requirements.

c. Following the notice in paragraph a. or b. of this condition the permit may be modified. The permittee shall not make any changes, or conduct any activities, requiring notification in paragraph a. or b. of this condition without approval from EPD.

d. The permittee shall provide at least 30 days advance notice to EPD of:

1. any planned expansion or increase in production capacity; or

2. any planned installation of new equipment or modification of existing processes that could increase the quantity of pollutants discharged or result in the discharge of pollutants that were not being discharged prior to the planned change

if such change was not identified in the permit application(s) upon which this permit is based and for which notice was not submitted under paragraphs a. or b. of this condition.

e. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify EPD as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 100 µg/L, (ii) five times the maximum concentration reported for that pollutant in the permit application, or (iii) 200 µg/L for acrolein and acrylonitrile, 500 µg/L for 2,4 dinitrophenol and for 2-methyl-4-6-dinitrophenol, or 1 mg/L antimony.

f. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify EPD as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in any discharge on a nonroutine or infrequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 500 µg/L, (ii) ten times the maximum concentration reported for that pollutant in the permit application, or (iii) 1 mg/L antimony.

g. Upon the effective date of this permit, the permittee shall submit to EPD an annual certification in June of each year certifying whether or not there has been any change in processes or wastewater characteristics as described in the submitted NPDES permit application that required notification in paragraph a., b., or d. of this condition. The permittee shall also certify annually in June whether the facility has received offsite wastes or wastewater and detail any such occurrences.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with, or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide EPD with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

3. Facility Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypassing

a. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to EPD at least 10 days (if possible) before the date of the bypass. The permittee shall submit notice of any unanticipated bypass with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

1. A description of the discharge and cause of noncompliance; and

2. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

b. Any diversion or bypass of facilities covered by this permit is prohibited, except (i) where unavoidable to prevent loss of life, personal injury, or severe property damage; (ii) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if the permittee could have installed adequate back-up equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and (iii) the permittee submitted a notice as required above. The permittee shall operate the treatment works, including the treatment plant and total sewer system, to minimize discharge of the pollutants listed in Part I of this permit from combined sewer overflows or bypasses. Upon written notification by EPD, the permittee may be required to submit a plan and schedule for reducing bypasses, overflows, and infiltration in the system.

6. Sludge Disposal Requirements

Sludge shall be disposed of in accordance with the regulations and guidelines established by EPD, the Federal Clean Water Act, and the Resource Conservation and Recovery Act (RCRA). Prior to disposal of sludge by any method other than co-disposal in a permitted landfill, the permittee shall submit a sludge management plan to the Watershed Protection Branch of EPD for written approval. For land application of nonhazardous sludge, the permittee shall comply with the applicable criteria outlined in the most current version of EPD's "Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates" and with the State Rules, Chapter 391-3-6-.17. EPD may require more stringent control of this activity. Prior to land applying nonhazardous sludge, the permittee shall submit a sludge

management plan to EPD for review and approval. Upon approval, the plan for land application will become a part of the NPDES permit upon modification of the permit.

7. Sludge Monitoring Requirements

The permittee shall develop and implement procedures to ensure adequate year-round sludge disposal. The permittee shall monitor the volume and concentration of solids removed from the plant. Records shall be maintained which document the quantity of solids removed from the plant. The ultimate disposal of solids shall be reported (in the unit of lbs) as specified in Part I.D of this permit.

8. Power Failures

Upon the reduction, loss, or failure of the primary source of power to said water pollution control facilities, the permittee shall use an alternative source of power if available to reduce or otherwise control production and/or all discharges in order to maintain compliance with the effluent limitations and prohibitions of this permit.

If such alternative power source is not in existence, and no date for its implementation appears in Part I, the permittee shall halt, reduce or otherwise control production and/or all discharges from wastewater control facilities upon the reduction, loss, or failure of the primary source of power to said wastewater control facilities.

9. Operator Certification Requirements

The permittee shall ensure that, when required, a certified operator is in charge of the facility in accordance with Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant Operators and Laboratory Analysts Rule 43-51-6.(b)

10. Laboratory Analyst Certification Requirements

The permittee shall ensure that, when required, the person in responsible charge of the laboratory performing the analyses for determining permit compliance is certified in accordance with the Georgia Certification of Water and Wastewater Treatment Plant operators and Laboratory Analysts Act, as amended, and the Rules promulgated thereunder.

B. Responsibilities

1. Right of Entry

The permittee shall allow the Director of EPD, the Regional Administrator of EPA, and/or their authorized representatives, agents, or employees, upon the presentation of credentials:

a. To enter upon the permittee's premises where a discharge source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and to sample any substance or parameters in any location.

2. Transfer of Ownership or Control

A permit may be transferred to another person by a permittee if:

a. The permittee notifies the Director of EPD in writing of the proposed transfer at least thirty (30) days in advance of the proposed transfer;

b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) is submitted to the Director at least thirty (30) days in advance of the proposed transfer; and

c. The Director, within thirty (30) days, does not notify the current permittee and the new permittee of EPD’s intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

3. Availability of Reports

Except for data deemed to be confidential under O.C.G.A. § 12-5-26 or by the Regional Administrator of the EPA under the Code of Federal Regulations, Title 40, Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at an office of EPD. Effluent data, permit applications, permittee's names and addresses, and permits shall not be considered confidential.

4. Permit Modification

This permit may be modified, suspended, revoked or reissued in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; or

d. To comply with any applicable effluent limitation issued pursuant to the order of the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et.al. v. Russell E. Train, 8 ERC 2120(D.D.C. 1976), if the effluent limitation so issued:

1. is different in conditions or more stringent than any effluent limitation in the permit; or

2. controls any pollutant not limited in the permit.

5. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established pursuant to Section 307(a) of the Federal Clean Water Act for toxic pollutants, which are present in the discharge within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Federal Clean Water Act.

8. Water Quality Standards

Nothing in this permit shall be construed to preclude the modification of any condition of this permit when it is determined that the effluent limitations specified herein fail to achieve the applicable State water quality standards.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Expiration of Permit

The permittee shall not discharge after the expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information, forms, and fees as are required by EPD at least 180 days prior to the expiration date.

11. Contested Hearings

Any person who is aggrieved or adversely affected by an action of the Director of EPD shall petition the Director for a hearing within thirty (30) days of notice of such action.

12. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

13. Best Management Practices

The permittee will implement best management practices to control the discharge of hazardous and/or toxic materials from ancillary manufacturing activities. Such activities include, but are not limited to, materials storage, in-plant transfer, process and material handling, loading and unloading operations, plant site runoff, and sludge and waste disposal.

14. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

15. Duty to Provide Information

a. The permittee shall furnish to the EPD Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish upon request copies of records required to be kept by this permit.

b. When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts and information.

16. Duty to Comply

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et. seq.) and is grounds for enforcement action; for permit termination; revocation and reissuance, or modification; or for denial of a permit renewal application. Any instances of noncompliance must be reported to EPD as specified in Part I. D and Part II.A. of this permit.

b. Penalties for violations of permit conditions. The Federal Clean Water Act and the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et. seq.) provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine or by imprisonment, or by both. The Georgia Water Quality Control Act (Act) also provides procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director**.**

17. Upset Provisions

Provisions of 40 CFR 122.41(n)(1)-(4), regarding "Upset" shall be applicable to any civil, criminal, or administrative proceeding brought to enforce this permit.

PART III

A. Previous Permits

1. All previous State wastewater permits issued to this facility, whether for construction or operation, are hereby revoked by the issuance of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

B. Schedule of Compliance

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. Special Conditions

1. No later than two years from the commencement of discharge, the permittee must complete and submit to EPD Items V and VI of NPDES application Form 2C (EPA Form 3510-2C). The completed form should be submitted to:

Georgia Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive Suite 1152E
Atlanta, GA 30334

2. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

3. Neither free available chlorine (FAC) nor total residual chlorine (TRC) may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time unless the permittee can demonstrate to and get written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination. The permittee has demonstrated the need for continuous chlorination of the service water system to maintain FAC between 0.5 mg/L and 1.0 mg/L. This special condition is waived during periods of continuous chlorination of the service water system and the effluent limitation for FAC has been determined to be 1.0 mg/L in accordance with the manufacture's recommendation.

4. The free available chlorine (FAC) average means the average over any individual chlorine or oxidant release period. The FAC maximum is the instantaneous maximum which may occur at any time. Further, the permittee will develop a system for monitoring and recording

total time of FAC and TRC discharges. The results shall be reported in a suitably concise form in accordance with the reporting requirements in Part 1.B.2 of this permit.

5. If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for TRC and FAC shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants). There is no difference in test methods between TRC/FAC and TRO/FAO.

6. The permittee shall certify annually that none of the 126 priority pollutants, excluding chromium and zinc, is above detectable limits in outfall 002A (cooling tower blowdown). This certification may be based on manufacturers certifications or engineering calculations. A certification for chromium and/or zinc may be used in lieu of the monitoring required in Part I.A.2.

D. Biomonitoring and Toxicity Reduction Requirements

1. The permittee shall comply with effluent standards or prohibitions established by section 307(a) of the Federal Act and with chapter 391-3-6-.03(5)(e) of the State Rules and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

If toxicity is suspected in the effluent, EPD may require the permittee to perform any of the following actions:

a. Acute biomonitoring tests;

b. Chronic biomonitoring tests;

c. Stream studies;

d. Priority pollutant analyses;

e. Toxicity reduction evaluations (TRE); or

f. Any other appropriate study.

2. EPD will specify the requirements and methodologies for performing any of these tests or studies. Unless other concentrations are specified by EPD, the critical concentration used to determine toxicity in biomonitoring tests will be the effluent instream wastewater concentration (IWC) based on the representative plant flow of the facility and the critical low flow of the receiving stream (7Q10). The endpoints that will be reported are the effluent concentration that is lethal to 50% of the test organisms (LC50) if the test is for acute toxicity, and the no observed effect concentration (NOEC) of effluent if the test is for chronic toxicity.

The permittee must eliminate effluent toxicity and supply EPD with data and evidence to confirm toxicity elimination.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

The Georgia Environmental Protection Division proposes to issue an NPDES permit to the applicant identified below. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the State.

Technical Contact: Whitney Fenwick (*Whitney.Fenwick@dnr.ga.gov)*
404-656-2795

Draft permit:

- ☒ first issuance
- ☐ reissuance with no or minor modifications from previous permit
- ☐ reissuance with substantial modifications from previous permit
- ☐ modification of existing permit
- ☒ requires EPA review
- ☒ designated as a Major facility

1. FACILITY INFORMATION

1.1 NPDES Permit No.: GA0050283

1.2 Name and Address of Owner/Applicant

GRP Madison Renewable Energy Facility, LLC
PO Box 909
Colbert, Georgia 30628

1.3 Name and Address of Facility

GRP Madison Renewable Energy Facility, LLC
268 Office Drive
Colbert, Georgia 30628
(Madison County)

1.4 Location and Description of the discharge (as reported by applicant)

Outfall ID	Latitude	Longitude	Receiving Waterbody
001	34.038762	-83.192422	Unnamed tributary to Beaverdam Creek
002	34.040836	-83.190083	Unnamed tributary to Beaverdam Creek

1.5 Production Capacity

Not Applicable

1.6 SIC Code & Description

4911 – Electric Services

1.7 Description of Industrial Processes

The GRP-Madison facility is a 65-MegaWatt facility that consists of a spreader stoker vibrating water cooled grate boiler/steam generator, and one steam turbine generator (STG). The project includes a flue gas Air Quality Control System (AQCS) consisting of a Selective Catalytic Reducer (SCR) NOx/CO emissions control systems, Mechanical Dust Collector (Multi-Cyclone), and Electrostatic Precipitator. The facility burns wood biomass (wood debris). The facility will operate continuously 24 hours a day, 7 days a week.

1.8 Description of the Wastewater Treatment Facility

Outfall	Operation Description	Treatment Description
001	Stormwater	Sedimentation (settling)
002	Boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater.	Neutralization, oil/water separator

1.9 Type of Wastewater Discharge

☒ process wastewater ☒ stormwater

☐ domestic wastewater ☒ combined

☒ other (boiler blowdown, boiler area feedwater, boiler area drains, reverse osmosis reject water, STG sump area drain, cooling tower blowdown)

1.10 Characterization of Effluent Discharge as Reported by Applicant
(Form 2D, Section V, Part A only. Please refer to the application for additional analysis)

1.10.a Outfall No. 001: Stormwater

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	2.9	0.068
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	6.56	6.41
Total Suspended Solids (mg/L)	22	14.68
Temperature, Winter (°F)	62.96	62.96
Temperature, Summer (°F)	66.92	66.92
Ammonia (mg/L)	<0.8	<0.8
Total Phosphorus (mg/L)	0.136	0.095

1.10.b Outfall No. 002: Boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater.

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	0.65	0.205
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	60.57	26.39
Total Suspended Solids (mg/L)	82.3	33.37
Temperature, Winter (°F)	68.72	68.72
Temperature, Summer (°F)	68.72	68.72
Ammonia (mg/L)	4.44	1.218
Total Phosphorus (mg/L)	6.066	3.658

2. APPLICABLE REGULATIONS

2.1 State Regulations

Chapter 391-3-6 of the Georgia Rules and Regulations for Water Quality Control

2.2 Federal Regulations

Source	Activity	Applicable Regulation
Industrial (Non POTW)	Non-Process Water Discharges	40 CFR 122 40 CFR 125 40 CFR 127 40 CFR 136
	Process Water Discharges	40 CFR 122 40 CFR 125 40 CFR 127 40 CFR 136

2.3 Industrial Effluent Limit Guideline(s)

Not applicable

The effluent limit guidelines (ELGs) at 40 CFR 423 apply to discharges resulting from the operation of a generating unit by an establishment whose generation of electricity is the predominant source of revenue or principal reason for operation, and whose generation of electricity results primarily from a process utilizing fossil-type fuel (coal, oil, or gas), fuel derived from fossil fuel (e.g., petroleum coke, synthesis gas), or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. The ELGs do not apply to plants that use non-fossil fuel or non-nuclear fuel or other energy sources, such as biomass.

3. WATER QUALITY STANDARDS & RECEIVING WATERBODY INFORMATION

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal Regulations 40 CFR 122.4(d) require that conditions in NPDES permits ensure compliance with the water quality standards which are composed of use classifications, numeric and or narrative water quality criteria and an anti-degradation policy. The use classification system designates the beneficial uses that each waterbody is expected to achieve, such as drinking water, fishing, or recreation. The numeric and narrative water quality criteria are deemed necessary to support the beneficial use classification for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses.

3.1 Receiving Waterbody Classification and Information

[391-3-6-.03(6)]

Fishing

(i) Dissolved Oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for water designated as trout streams by the Wildlife Resources

Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for waters supporting warm water species of fish.

(ii) pH: Within the range of 6.0 - 8.5.

(iii) Bacteria:

1. For the months of May through October, when water contact recreation activities are expected to occur, fecal coliform not to exceed a geometric mean of 200 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show fecal coliform levels from non-human sources exceed 200/100 mL (geometric mean) occasionally, then the allowable geometric mean fecal coliform shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing freshwater streams. For the months of November through April, fecal coliform not to exceed a geometric mean of 1,000 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 mL for any sample. The State does not encourage swimming in these surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of bacteria.

2. For waters designated as shellfish growing areas by the Georgia DNR Coastal Resources Division, the requirements will be consistent with those established by the State and Federal agencies responsible for the National Shellfish Sanitation Program. The requirements are found in National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, 2007 Revision (or most recent version), Interstate Shellfish Sanitation Conference, U.S. Food and Drug Administration.

(iv) Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature except that in estuarine waters the increase will not be more than 1.5°F. In streams designated as primary trout or smallmouth bass waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2°F natural stream temperatures.

3.2 Ambient Information

Outfall ID	7Q10 (cfs)	1Q10 (cfs)	Hardness (mg/L as $CaCO_3$)	Annual Average Flow (cfs)	Upstream Total Suspended Solids (mg/L)
001	0.000605	0.000428	Data unavailable[1]	0.0518	Data unavailable[2]
002	0.000522	0.000372	Data unavailable[1]	0.0367	Data unavailable[2]

[1] For the Reasonable Potential Analysis calculations, EPD used 20 mg/l as a conservative value.
[2] For the Reasonable Potential Analysis calculations, EPD used 10 mg/l as a conservative value.

3.3 Georgia 305(b)/303(d) List Documents

Unnamed tributary to Beaverdam Creek is not listed on the 305(b)/303(d) List.

Beaverdam Creek (Mill Shoal Creek to South Fork Broad River) is listed as not supporting the designated use for sediment (Bio F). There are currently no TMDLs for this segment.

Beaverdam Creek	Mill Shoal Creek to South Fork Broad River	Savannah	Not Supporting	Bio F	4	5
GAR030601040406	Oglethorpe, Madison	Fishing	4	NP	Miles	2020

3.4 Total Maximum Daily Load (TMDL)

Not Applicable.

3.5 Wasteload Allocation Date (if applicable)

See Appendix B of the Fact Sheet

4. PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

4.1 Water Quality Based Effluent Limitations (WQBELs) & Technology Based Effluent Limits (TBELS)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed pollutants in a discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality criteria or standards. By analyzing the effect of a pollutant in the discharge on the receiving water, a permit writer could find that technology-based effluent limitations (TBELs) alone will not achieve the applicable water quality standards or protect downstream users. In such cases, the Clean Water Act (CWA) and its implementing regulations require development of water quality-based effluent limitations (WQBELs). WQBELs help meet the CWA objective

of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and the goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (fishable/swimmable).

WQBELs are designed to protect water quality by ensuring water quality standards are met in the receiving water and the designated use and downstream uses are protected. On the basis of the requirements of 40 C.F.R §125.3(a), additional or more stringent effluent limitations and conditions, such as WQBELs, are imposed when TBELs are not sufficient to protect water quality.

TBELs aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the State. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and WQBELs. The NPDES regulations at 40 C.F.R. §125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. The regulation also requires permit writers to include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.

For pollutants not specifically regulated by Federal Effluent Limit Guidelines (ELGS), the permit writer must identify any needed TBELS and utilize best professional judgment to establish TBELS or determine other appropriate means to control its discharge if there is a reasonable potential to cause or contribute to a violation of the water quality standards.

4.2 Reasonable Potential Analysis (RPA)

EPA regulations at 40 C.F.R. §122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will *cause*, have the *reasonable potential to cause*, or *contribute* to an excursion above any [s]tate water quality standard, including [s]tate narrative criteria for water quality." [emphasis added]

EPA regulations at 40 C.F.R. §122.44(d)(1)(ii) require States to develop procedures for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative or numeric criterion within a state water. If such reasonable potential is determined to exist, the NPDES permit must contain pollutant effluent limits and/or effluent limits for whole effluent toxicity. Georgia has reasonable potential procedures, based upon the specific category of pollutants and/or specific pollutant of concern. Chemical specific and biomonitoring data and other pertinent information in EPD's files will be considered in accordance with the review procedures specified in the GA Rules and Regulations for Water Quality Control, Chapter 391-3-6 in the evaluation of a permit application and in the evaluation of the reasonable potential for a discharge to cause an exceedance in the numeric or narrative criteria.

The term "pollutant" is defined in CWA section 502(6) and 40 C.F.R. §122.2. Pollutants are grouped into three categories under the NPDES program: conventional, toxic, and

nonconventional. Conventional pollutants are those defined in CWA section 304(a)(4) and 40 C.F.R.§401.16 (five day-biochemical oxygen demand (BOD_5), total suspended solids (TSS), fecal coliform, pH, and oil and grease). Toxic (priority) pollutants are those defined in CWA section 307(a)(1) and include 126 metals and manmade organic compounds. Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic pollutants) and include parameters such as, but not limited to, chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

EPD evaluates the data provided in the application and supporting documents. If a pollutant is listed in the following sections of this fact sheet below, the permit writer determined the pollutant is a pollutant of concern and there may be a reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. If a pollutant is not listed below, EPD determined the pollutant is not a pollutant of concern or has determined, based on the data provided in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. An example may be if the applicant reported "not detect" or "below detection limit".

Upon identification of a pollutant of concern by the permit writer, in accordance with 40 C.F.R. §122.44(d)(1)(ii), the permit writer must then perform a reasonable potential analysis using a procedure which has accounted for any combination of the following criteria: existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water to determine if the pollutant and its discharge has the reasonable potential to cause, or contribute to an in-stream excursion above the allowable ambient concentration of a state narrative or numeric criteria within the state's water quality standard for an individual pollutant.

In accordance with 40 C.F.R. §122.44(d)(1)(iii), if the permit writer has determined, using a reasonable potential procedure the pollutant of concern in the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric or narrative criteria within a state water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant. If the permit writer has determined there is insufficient data, the permit writer might also consider monitoring requirements to collect the additional data related to the presence or absence of a specific pollutant to provide information for further analyses for the development of appropriate numeric or narrative standard .

The conventional, nonconventional, and toxic pollutants listed in the following sections have been identified by the permit writer as pollutants of concern and the permit writer has determined through current practices and procedures one of the following: no additional monitoring or numeric and/or narrative effluent limits are needed; additional monitoring is required; or numeric and/or narrative effluent limits are necessary to protect the receiving water body and its downstream users and those limits have been included in the permit.

The monitoring and sampling locations are prescribed in the permit and determined by the permit writer after considering, at a minimum, the following: type of discharge, specific pollutant, discharge frequency, location of the discharge, receiving waterbody, downstream users, etc.

The sample type, grab vs. composite, is prescribed in the permit and determined by the permit writer after considering, at a minimum, the analytical method required in 40 C.F.R. §136, the type of pollutant, retention time, etc. Grab samples are required for the analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), or volatile organics.

4.3 Whole Effluent Toxicity

Chronic WET test measures the effect of wastewater on indicator organisms' growth, reproduction and survival. Effluent toxicity is predicted when the No Observable Effect Concentrations for a test organism is less than the facility's Instream Wastewater Concentration.

One Chronic WET test will be required within 6 months of commencement of facility operation and an additional test will be required within 6-12 months of commencement of facility operation.

4.4 Conventional Pollutants

Pollutants of Concern		Basis
pH	001, 002	WQBEL The instream waste concentrations are 99.99% (outfall 001) and 99.82% (outfall 002). When the instream waste concentration is above 50%, it results in a reasonable potential to cause or contribute to violation of the instream Georgia Water Quality Standard; therefore, limits of 6.0 s.u. to 8.5 s.u has been added.
		TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and discharges from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), the pH of all discharges shall be within the range of 6.0-9.0 s.u.

Total Suspended Solids	002	WQBEL Georgia has a narrative Water Quality Standard for total suspended solids. A narrative permit condition stating, "there shall be no floating solids or visible foam other than in trace amounts" has been added. TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and low volume wastes from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(3), a limit of 30.0 mg/L is used for the daily average and 100.0 mg/L for the daily maximum.
Temperature	002	WQBEL This specific type of industry has the reasonable potential to have discharges with elevated temperatures. Temperature monitoring has been included to collect additional data to determine if an effluent limit is needed. TBEL There is no applicable federal technology based effluent limit.
Oil and Grease	001	WQBEL Georgia has a narrative Water Quality Standard for oil and grease. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies oil and grease as a pollutant of concern for the steam electric industrial category. The long standing technology based effluent limits of 10 mg/L, daily average and 15 mg/L, daily maximum is representative of the concentration at which a visible oil sheen is likely to occur and may have the reasonable potential to cause or contribute to violation of the narrative water quality standard, and have been added to the permit. TBEL There is no applicable federal technology based effluent limit.

Oil and Grease	002	WQBEL Georgia has a narrative Water Quality Standard for oil and grease. TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and low volume wastes from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(3), a limit of 15 mg/L is used for the daily average and 20 mg/L for the daily maximum.

4.5 Nonconventional Pollutants

Pollutants of Concern		Basis
Total Phosphorus	001, 002	WQBEL Per the requirements of the *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011 effluent limits of 1.0 mg/L daily average and 1.5 mg/L daily maximum; respectively, have been added to this permit. The daily maximum was calculated by multiplying the daily average concentration limit by 1.5. TBEL There is no applicable federal technology based effluent limit.
Orthophosphate	001, 002	WQBEL Per the *Strategy for Addressing Phosphorus in NPDES Permitting*, 2011 (the Strategy is available to review on EPD's website) all routine permit reissuances that have discharges upstream from reservoirs, lakes, impoundments, and/or estuaries must include ortho-phosphate monitoring. The facility and/or outfalls discharge upstream of Clarks Hill Lake, hence monitoring requirements have been added. TBEL There is no applicable federal technology based effluent limit.

Free Available Chlorine	002A	WQBEL Georgia does not have Water Quality Standards applicable to internal outfalls. TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. §125.3(c). Due to the similarities between the discharge from this facility and cooling tower blowdown from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), a limit of 0.2 mg/L is used for the daily average and 0.5 mg/L for the daily maximum. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the permittee can demonstrate to and receive written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination. The permittee has demonstrated the need for continuous chlorination of the service water system to maintain FAC between 0.5 mg/L and 1.0 mg/L. This special condition is waived during periods of continuous chlorination of the service water system and the effluent limitation for FAC has been determined to be 1.0 mg/L in accordance with the manufacture's recommendation.

4.6 Toxics & Manmade Organic Compounds (126 priority pollutants and metals)

Pollutants of Concern		Basis
Chloroform	002	WQBEL Chloroform data was not provided with the permit application, however, data from outfall 002 was later provided to the Georgia EPD Northeast District Office on August 13, 2020. This data was included in the reasonable potential analysis. The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for chloroform. Effluent limits of 3.93 lbs/day and 5.85 lbs/day, daily average and daily maximum; respectively, and 0.471 mg/L and 0.706 mg/L, daily average and daily maximum; respectively, have been added to this permit.
		TBEL There is no applicable federal technology based effluent limit.
Chromium, Total	002A	WQBEL Georgia does not have Water Quality Standards applicable to internal outfalls.
		TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and cooling tower blowdown from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), a limit of 0.2 mg/L is used for the daily average and 0.2 mg/L for the daily maximum.
Copper, Total	001	WQBEL The discharge from outfall 001 is industrial stormwater. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies copper as a pollutant of concern for the steam electric industrial category. Monitoring has been included to determine if water quality based effluent limits are necessary.
		TBEL There is no applicable federal technology based effluent limit.

Copper, Total	002	WQBEL Copper data was not provided with the permit application, however, data from outfall 002 was later provided to the Georgia EPD Northeast District Office on August 13, 2020. This data was included in the reasonable potential analysis. The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for copper. Effluent limits of 0.011 lbs/day and 0.014 lbs/day, daily average and daily maximum; respectively, and 0.007 mg/L and 0.009 mg/L, daily average and daily maximum; respectively, have been added to this permit. TBEL There is no applicable federal technology based effluent limit.
Cyanide	002	WQBEL Cyanide data was not provided with the permit application, however, data from outfall 002 was later provided to the Georgia EPD Northeast District Office on August 13, 2020. This data was included in the reasonable potential analysis. The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for cyanide. Effluent limits of 0.043 lbs/day and 0.065 lbs/day, daily average and daily maximum; respectively, and 0.005 mg/L and 0.008 mg/L, daily average and daily maximum; respectively, have been added to this permit. TBEL There is no applicable federal technology based effluent limit.
Nickel, Total	001	WQBEL The discharge from outfall 001 is industrial stormwater. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies nickel as a pollutant of concern for the steam electric industrial category. Monitoring has been included to determine if water quality based effluent limits are necessary. TBEL There is no applicable federal technology based effluent limit.

Zinc, Total	001	WQBEL The discharge from outfall 001 is industrial stormwater. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies zinc as a pollutant of concern for the steam electric industrial category. Monitoring has been included to determine if water quality based effluent limits are necessary.
		TBEL There is no applicable federal technology based effluent limit.
	002A	WQBEL Georgia does not have Water Quality Standards applicable to internal outfalls.
		TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and cooling tower blowdown from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), a limit of 1.0 mg/L is used for the daily average and 1.0 mg/L for the daily maximum.
	002	WQBEL The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for zinc. Effluent limits of 0.180 lbs/day and 0.180 lbs/day, daily average and daily maximum; respectively, and 0.114 mg/L and 0.114 mg/L, daily average and daily maximum; respectively, have been added to this permit.
		TBEL There is no applicable federal technology based effluent limit.

Polychlorinated Biphenyl Compounds	002	WQBEL Based on the data submitted in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standards. TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and discharges from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), there shall be no discharge of polychlorinated biphenyl compounds.
126 Priority Pollutants	002A	WQBEL Based on the data submitted in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standards. TBEL The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and discharges from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), there should be no detectable amount of the 126 priority pollutants contained in chemicals added for cooling tower maintenance (except chromium, total and zinc, total).

4.7 Calculations for Water Quality Based Effluent Limits

4.7.a Instream Waste Concentration (IWC)

Outfall 001:

IWC = $\frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day) + 7Q10 (gal/day)}}$

IWC = $\frac{\text{2,900,000 (gal/day)}}{\text{(2,900,000 (gal/day) + 391 (gal/day))}}$

IWC = 99.99%

Outfall 002:

IWC = $\frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day) + 7Q10 (gal/day)}}$

IWC = $\frac{\text{190,000 (gal/day)}}{\text{(190,000 (gal/day) + 337 (gal/day))}}$

IWC = 99.82%

4.7.b Metals

See the calculations for applicable metals in Appendix C of Fact Sheet. Sample calculation shown below.

Outfall ID 001: Copper

Mass Based Limits

Daily Average Loading = Chronic C_T

Daily Average: 0.011 (lbs/day)

$$\text{Chronic } C_T = \frac{\frac{WQC_{\text{Chronic}}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

Daily Maximum Loading = Acute C_T

Daily Maximum = 0.014 (lbs/day)

$$\text{Acute } C_T = \frac{\frac{WQC_{\text{Acute}}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

Concentration Based Limits

Daily Average Concentration = Chronic C_T

$$\text{Chronic } C_T = \frac{\frac{WQC_{\text{Chronic}}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

Daily Average = 6.99 (µg/L)
Daily Average (mg/L) = 0.001 x Daily Average (µg/L)
Daily Average (mg/L) = 0.001 x 6.99 (µg/L)
Daily Average: 0.007 (mg/L)

Daily Maximum Concentration = Acute C_T

$$\text{Acute } C_T = \frac{\frac{WQC_{\text{Acute}}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

Daily Maximum = 9.10 (µg/L)
Daily Maximum (mg/L) = 0.001 x Daily Maximum (µg/L)
Daily Maximum (mg/L) = 0.001 x 9.10 (µg/L)
Daily Maximum = 0.009 (mg/L)

4.8 Technology Based Effluent Limitation Calculations

There are several ways to calculate TBELs when developing case-by-case limitations. EPD can use an approach consistent with the statistical approach EPA has used to develop effluent guidelines or they can utilize several other mathematically and statistically accepted approaches depending on characteristics of the data. In general, EPD utilizes EPA's "NPDES Permit Writer Manual," September 2010, Section 5.2.3, "Case-by-Case TBELs for Industrial Dischargers" and EPA's "Technical Support Document for Water Quality Based Toxic Control," March 1991, Section 5.2, "Basis Principles of Effluent Variability," as guidance to develop limits.

If applicable, when there is no federal technology based effluent limit EPD evaluates the effluent data, operating records and discharge monitoring reports to calculate the long-term average for the parameter. The long-term average is then used to derive the effluent limits.

EPD recognizes there are several ways to calculate technology-based limits and, when applicable, may deviate from the general practice.

4.9 Comparison & Summary of Water Quality vs. Technology Based Effluent Limits

After preparing and evaluating applicable technology-based effluent limitations and water quality-based effluent limitations, the most stringent limits are applied in the permit. Pollutants of concern with an effluent limit of monitor and report are not included in the below table.

Outfall 001

Parameter	WQBELs	TBELs	Explanation
pH (s.u.)	6.0 – 8.5	6.0-9.0	WQBEL – WQS
Oil and Grease (mg/L)	10/15	None	WQBEL – WQS
Total Phosphorus (mg/L)	1.0/1.5	None	WQBEL – Strategy for Addressing Phosphorus

Outfall 002

Parameter	WQBELs	TBELs	Explanation
pH (s.u.)	6.0 – 8.5	6.0-9.0	WQBEL – Water Quality Standard
Total Suspended Solids (mg/L)	Narrative	30/100	TBEL – BPJ
Oil and Grease (mg/L)	Narrative	15/20	TBEL – BPJ
Total Phosphorus (lbs/day)	1.0/1.5	None	WQBEL – Strategy for Addressing Phosphorus
Chloroform (lbs/day)	3.93/5.85	None	WQBEL – WQS
Chloroform (mg/L)	0.471/0.706	None	WQBEL – WQS
Copper, total (lbs/day)	0.011/0.014	None	WQBEL – WQS
Copper, total (mg/L)	0.007/0.009	None	WQBEL – WQS
Cyanide (lbs/day)	0.043/0.065	None	WQBEL – WQS
Cyanide (mg/L)	0.005/0.008	None	WQBEL – WQS
Zinc, total (lbs/day)	0.180/0.180	None	WQBEL – WQS
Zinc, total (mg/L)	0.114/0.114	None	WQBEL – WQS

Outfall 002A

Parameter	WQBELs	TBELs	Explanation
Free Available Chlorine (mg/L)	None	1.0/1.0	TBEL – BPJ
Chromium, total (mg/L)	None	0.2/0.2	TBEL – BPJ
Zinc, total (mg/L)	None	1.0/1.0	TBEL – BPJ

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Antidegradation Analysis

As required by Chapter 391-3-6 of the Georgia Water Quality Control Act, applicants seeking a National Pollutant Discharge Elimination System Permit (NPDES), must submit the results of an Antidegradation Analysis for review using EPD's *Antidegradation Implementation Guidelines,* February 2019 as amended, and available for review on our website).

As stated in Section 4 (four) of GA's Antidegradation Implementation Guidelines referenced above, "The alternatives analysis shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. The applicant will submit the analysis including its selection of the practicable alternative(s) to be implemented for EPD's approval. Georgia's antidegradation rule does not require the least degrading practicable alternative be selected for implementation. The requirement is for the applicant to examine alternatives and provide to EPD documentation of the alternatives analysis and a reasoned explanation for whichever practicable alternative is ultimately selected for implementation. "Practicable alternatives" is defined in the Georgia Rules for Water Quality Control at 391-3-6- .03(3), as "alternatives that are technologically possible, able to be put into practice, and economically viable" (see also 40 CFR 131.3). An alternative is technologically possible if the technology is currently available. An alternative is economically viable if it can be implemented without unreasonably impacting the financial health of the applicant."

Alternatives Analysis

The facility evaluated the alternative of offsite treatment. There is not a public or private treatment system within a 25-mile radius with sufficient capacity to treat the entire volume of wastewater and stormwater generated at the facility. The Madison County Industrial Development and Building Authority Water Pollution Control Plant (Madison County IDBA WPCP) currently has a capacity to treat and discharge up to 50,000 gpd via land application and treats an average of 10,000 gpd from commercial residents and customers. Madison County IDBA WPCP is evaluating the possibility of updating the land application system (LAS) permit to allow for up to 70,000 gpd of water to be discharged to the LAS. However, this is not sufficient capacity to land apply the entire volume of wastewater that is anticipated to be generated at this facility. Additional infrastructure to connect to Madison County IDBA WPCP was estimated to cost over $100,000 in addition to the cost to installation and operate wastewater pretreatment equipment.

The facility also evaluated the alternative of land application. Based on the dominant soils in the area, they estimated a site in the vicinity of the facility would have a maximum estimated hydraulic loading rate of 2.13 in/week. Considering the wastewater flow from the facility, 27.31 acres of land at a cost of approximately $720,000 would be required for treatment and disposal. Operating costs, including trucking were estimated at approximately $5,767,000/year. As a result, this alternative was deemed impractical and infeasible.

Underground Injection Control was also evaluated. The facility is expected to discharge an average of 205,000 gallons per day of process water from outfall 002. Underground injection control (discharge to a non-domestic septic system) is not technologically feasible for this volume of water.

Lastly, reuse of the treated wastewater was evaluated. The facility is designed as a closed loop system which allows the utilized potable water to be cycled through the system at least 7 times before solid build up occurs, thus requiring disposal of the wastewater. The facility does not have sufficient property for land application of reuse water for agricultural irrigation. As a result, this alternative was deemed impractical and infeasible.

Social and Economic Analysis

The facility is located in Madison County, Georgia which has an estimated population of 29,650 people, a median household income of $51,700, and an employment rate of 59.9%. The facility provides electricity to over 60,000 homes per year. The facility is expected to deliver the following economic impacts to the community; payment of $1,600,000 per year in tax revenue, 36 direct employees and 400 related jobs, and $3,000,000 in direct payroll and benefits. Additionally, GRP has paid for a $3,500,000 water system upgrade for Madison County.

The Antidegradation Analysis indicated that the alternatives (discharge to a local municipality, land application, underground injection control, 100% recycle) evaluated were not able to be put into practice or were not economically or technologically viable. The Antidegradation Analysis demonstrated that the discharge is necessary to accommodate important economic or social development.

5.2 Special Conditions

1. No later than two years from the commencement of discharge, the permittee must complete and submit to EPD Items V and VI of NPDES application Form 2C (EPA Form 3510-2C). The completed form should be submitted to:

   Georgia Environmental Protection Division
   Wastewater Regulatory Program
   2 Martin Luther King Jr. Drive Suite 1152E
   Atlanta, GA 30334

2. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

3. Neither free available chlorine (FAC) nor total residual chlorine (TRC) may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time unless the permittee can demonstrate to and get written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination. The permittee has demonstrated the need for continuous chlorination of the service water system to maintain FAC between 0.5 mg/L and 1.0 mg/L. This

special condition is waived during periods of continuous chlorination of the service water system and the effluent limitation for FAC has been determined to be 1.0 mg/L in accordance with the manufacture's recommendation.

4. The free available chlorine (FAC) average means the average over any individual chlorine or oxidant release period. The FAC maximum is the instantaneous maximum which may occur at any time. Further, the permittee will develop a system for monitoring and recording total time of FAC and TRC discharges. The results shall be reported in a suitably concise form in accordance with the reporting requirements in Part 1.B.2 of this permit.

5. If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for TRC and FAC shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants). There is no difference in test methods between TRC/FAC and TRO/FAO.

6. The permittee shall certify annually that none of the 126 priority pollutants, excluding chromium and zinc, is above detectable limits in outfall 002A (cooling tower blowdown). This certification may be based on manufacturers certifications or engineering calculations. A certification for chromium and/or zinc may be used in lieu of the monitoring required in Part I.A.2.

5.3 Compliance Schedules

The permittee shall attain compliance with all limits on the effective date of the permit.

5.4 Anti-Backsliding

Not Applicable

6. REPORTING

The facility has been assigned to the following EPD office for reporting, compliance and enforcement.

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

6.1 E-Reporting

The permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8. PERMIT EXPIRATION

The permit will expire five years from the effective date.

9. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

9.1 Comment Period

The Georgia Environmental Protection Division (EPD) proposes to issue a permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

Georgia Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 1152 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday and on EPD's website accessible through the publicly available Georgia EPD Online System (GEOS) at: https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx. For additional information, you can contact 404-463-1511.

9.2 Public Comments

Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the EPD address above, or via e-mail at *EPDcomments@dnr.ga.gov* within 30 days of the initiation of the public comment period. All comments received prior to that date will be considered in the formulation of final determinations regarding the application. The permit number should be placed on the top of the first page of comments to ensure that your comments will be forwarded to the appropriate staff.

9.3 Public Hearing

Any applicant, affected state or interstate agency, the Regional Administrator of the U.S. Environmental Protection Agency (EPA) or any other interested agency, person or group of persons may request a public hearing with respect to an NPDES permit application if such request is filed within thirty (30) days following the date of the public notice for such application. Such request must indicate the interest of the party filing the request, the reasons

why a hearing is requested, and those specific portions of the application or other NPDES form or information to be considered at the public hearing.

The Director shall hold a hearing if he determines that there is sufficient public interest in holding such a hearing. If a public hearing is held, notice of same shall be provided at least thirty (30) days in advance of the hearing date.

In the event that a public hearing is held, both oral and written comments will be accepted; however, for the accuracy of the record, written comments are encouraged. The Director or a designee reserves the right to fix reasonable limits on the time allowed for oral statements and such other procedural requirements, as deemed appropriate.

Following a public hearing, the Director, unless it is decided to deny the permit, may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue the permit.

If no public hearing is held, and, after review of the written comments received, the Director determines that a permit should be issued and that the determinations as set forth in the proposed permit are substantially unchanged, the permit will be issued and will become final in the absence of a request for a contested hearing. Notice of issuance or denial will be made available to all interested persons and those persons that submitted written comments to the Director on the proposed permit.

If no public hearing is held, but the Director determines, after a review of the written comments received, that a permit should be issued but that substantial changes in the proposed permit are warranted, public notice of the revised determinations will be given and written comments accepted in the same manner as the initial notice of application was given and written comments accepted pursuant to EPD Rules, Water Quality Control, subparagraph 391-3-6-.06(7)(b). The Director shall provide an opportunity for public hearing on the revised determinations. Such opportunity for public hearing and the issuance or denial of a permit thereafter shall be in accordance with the procedures as are set forth above.

9.4 Final Determination

At the time that any final permit decision is made, the Director shall issue a response to comments. The issued permit and responses to comments can be found at the following address:

http://epd.georgia.gov/watershed-protection-branch-permit-and-public-comments-clearinghouse-0

9.5 Contested Hearings

Any person who is aggrieved or adversely affected by the issuance or denial of a permit by the Director of EPD may petition the Director for a hearing if such petition is filed in the office of the Director within thirty (30) days from the date of notice of such permit issuance

or denial. Such hearing shall be held in accordance with the EPD Rules, Water Quality Control, subparagraph 391-3-6-.01.

Petitions for a contested hearing must include the following:

1. The name and address of the petitioner;
2. The grounds under which petitioner alleges to be aggrieved or adversely affected by the issuance or denial of a permit;
3. The reason or reasons why petitioner takes issue with the action of the Director;
4. All other matters asserted by petitioner which are relevant to the action in question.

APPENDIX A

NPDES MAJOR/MINOR RATING WORKSHEET

NPDES Permit Rating Work Sheet

- [x] Regular Addition
- [ ] Discretionary Addition
- [ ] Score change, but no status change
- [ ] Deletion

NPDES No.: GA0050283

Facility Name:
GRP Madison Renewable Energy Facility, LLC

City: Colbert, GA

Receiving Water: Unnamed tributary to Beaverdam Creek

Reach Number: _____

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

- [x] YES; score is 600 (**stop here**)
- [ ] NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- [ ] YES; score is 700 (**stop here**)
- [ ] NO (continue)

FACTOR 1:Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: 4911

Other SIC Codes: _____ _____ _____ _____

Industrial Subcategory Code: _____ (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. *(Be sure to use the TOTAL toxicity potential column and **check one**)*

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	15	☐ 7	7	35
☐ 1.	1	5	☐ 4.	4	20	☐ 8.	8	40
☐ 2.	2	10	☐ 5.	5	25	☐ 9.	9	45
			☐ 6.	6	30	☐ 10.	10	50

Code Number Checked: ____

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume *(Complete either Section A or Section B; **check only one**)*

Section A - Wastewater Flow Only Considered

Wastewater type (See Instructions)			Code	Points
Type I:	Flow < 5 MGD	☐	11	0
	Flow 5 to 10 MGD	☐	12	10
	Flow>10 to 50 MGD	☐	13	20
	Flow> 50 MGD	☐	14	30
Type II:	Flow<1 MGD	☐	21	10
	Flow 1 to 5 MGD	☐	22	20
	Flow >5 to 10 MGD	☐	23	30
	Flow>10 MGD	☐	24	50
Type III:	Flow <1 MGD	☐	31	0
	Flow 1 to 5 MGD	☐	32	10
	Flow >5 to 10 MGD	☐	33	20
	Flow >10 MGD	☐	34	30

Section B - Wastewater and Stream Flow Considered

Wastewater type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	<10%	☐	41	0
	≥10% to <50%	☐	42	10
	≥50%	☐	43	20
Type II	<10%	☐	51	0
	≥10% to <50%	☐	52	20
	≥50%	☐	53	30

Code Checked from Section A or B: ____

Total Points Factor 2: 0

1

NPDES Permit Rating Work Sheet

FACTOR 3: Conventional Pollutants NPDES No.: GA0050283
(only when limited by the permit)

A. Oxygen Demanding Pollutants (check one) ☐ BOD ☐ COD ☐ OTHER: _____

Permit Limits (**check one**)		Code	Points
☐	<100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	>1000 to 3000 lbs/day	3	15
☐	>3000 lbs/day	4	20

Code Checked: ____
Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits (**check one**)		Code	Points
☐	<100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	>1000 to 5000 lbs/day	3	15
☐	>5000 lbs/day	4	20

Code Checked: ____
Points Scored: 0

C. Nitrogen Pollutants (**check one**) ☐ Ammonia ☐ OTHER: _____

Permit Limits (**check one**)		Nitrogen Equivalent	Code	Points
☐	<300 lbs/day		1	0
☐	300 to 1000 lbs/day		2	5
☐	>1000 to 3000 lbs/day		3	15
☐	>3000 lbs/day		4	20

Code Checked: ____
Points Scored: 0
Total Points Factor 3: 0

FACTOR 4: Public Health Impact
Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☐ YES (if yes, check toxicity potential number below)
☐ NO (**if no, go to Factor 5**)

*Determine the human health toxicity potential from Appendix A. Use the same SIC Code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column and **check one below**)*

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☐ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: ____
Total Points Factor 4: 0

NPDES Permit Rating Work Sheet

FACTOR 5: Water Quality Factors NPDES No.: GA0050283

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?*

	Code	Points
☐ YES	1	10
☐ NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

	Code	Points
☐ YES	1	0
☐ NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

	Code	Points
☐ YES	1	10
☐ NO	2	0

Code Number Checked: **A.** **B.** **C.**

Total Points Factor 5 A. 0 +B. 0 +C. 0 = 0

FACTOR 6: Proximity to Near Coastal Waters

A. *Base Score: Enter flow code here (from Factor 2):* _____

Enter the multiplication factor that corresponds to the flow code: 0.00

Check appropriate facility HPRI Code (from PCS):

HPRI#	Code	HPRI Score
☐ 1	1	20
☐ 2	2	0
☐ 3	3	30
☐ 4	4	0
☐ 5	5	20

Flow code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI Code Checked:

Base Score (HPRI Score) 0 x (Multiplication Factor) 0.00 = 0 (Total Points)

B. *Additional Points – NEP Program*

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
☐ YES	1	10
☐ NO	2	0

C. *Additional Points – Great Lakes Area of Concern*

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)?

	Code	Points
☐ YES	1	10
☐ NO	2	0

Code Number Checked: **A.** ____ **B.** ____ **C.** ____

Total Points Factor 6 A. 0 +B. 0 +C. 0 = 0

3

NPDES Permit Rating Work Sheet

Score Summary

NPDES No.: GA0050283

Factor	Description	Total Points
1.	Toxic Pollutant Potential	0
2.	Flow/Streamflow Volume	0
3.	Conventional Pollutants	0
4.	Public Health Impacts	0
5.	Water Quality Factors	0
6.	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	0

S1. Is the total score equal to or greater than 80? ☑ YES (Facility is a major) ☐ NO

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

☐ NO

☐ YES (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE: 0

OLD SCORE: _____

Whitney Fenwick
Permit Reviewer's Name

4046562795
Phone Number

6/01/2019
Date

Reset Form

APPENDIX B

WASTELOAD ALLOCATION

Unnamed Trib to Beaverdam Creek

Region ID: GA
Workspace ID: GA20200521173427766000
Clicked Point (Latitude, Longitude): 34.03865, -83.19221
Time: 2020-05-21 13:34:45 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0511	square miles
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	49.5	inches
RRMEAN	Relief ratio defined as (ELEV-MINBELEV)/(ELEVMAX-MINBELEV)	0.539	dimensionless

Low-Flow Statistics Parameters[N Georgia low flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0511	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6
RRMEAN	Relief Ratio Mean	0.539	dimensionless	0.146	0.607

Low-Flow Statistics Disclaimers[N Georgia low flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[N Georgia low flow 2017 5001]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.000428	ft^3/s
7 Day 10 Year Low Flow	0.000605	ft^3/s

Low-Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Annual Flow Statistics Parameters[N Georgia mean flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0511	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6

Annual Flow Statistics Disclaimers[N Georgia mean flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Annual Flow Statistics Flow Report[N Georgia mean flow 2017 5001]

Statistic	Value	Unit
Mean Annual Flow	0.0518	ft^3/s

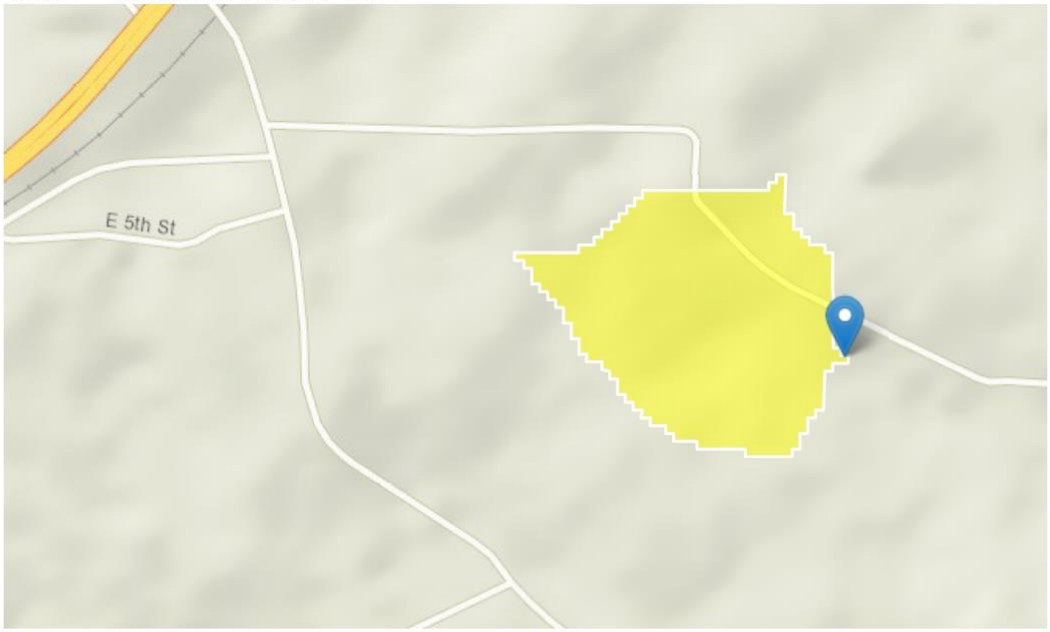
Annual Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Application Version: 4.3.11

Unnamed Trib to Beaverdam Creek

Region ID: GA
Workspace ID: GA20200521180141328000
Clicked Point (Latitude, Longitude): 34.04041, -83.18796
Time: 2020-05-21 14:01:57 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0361	square miles
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	49.5	inches
RRMEAN	Relief ratio defined as (ELEV-MINBELEV)/(ELEVMAX-MINBELEV)	0.51	dimensionless

Low-Flow Statistics Parameters[N Georgia low flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0361	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6
RRMEAN	Relief Ratio Mean	0.51	dimensionless	0.146	0.607

Low-Flow Statistics Disclaimers[N Georgia low flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[N Georgia low flow 2017 5001]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.000372	ft^3/s
7 Day 10 Year Low Flow	0.000522	ft^3/s

Low-Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Annual Flow Statistics Parameters[N Georgia mean flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0361	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6

Annual Flow Statistics Disclaimers[N Georgia mean flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Annual Flow Statistics Flow Report[N Georgia mean flow 2017 5001]

Statistic	Value	Unit
Mean Annual Flow	0.0367	ft^3/s

Annual Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Application Version: 4.3.11

APPENDIX C

REASONABLE POTENTIAL ANALYSIS

Reasonable Potential Analysis for Freshwater

Permit Name GRP-Madison Renewable Energy Facility LLC

NPDES Permit No. GA0050283 Outfall 001

Stream Data:

Receiving stream Hardness:	20	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.000605	ft^3/s
	391	gal/day
1Q10:	0.000428	ft^3/s
	277	gal/day

Effluent Data:

Flow	2,900,000	gal/day
TSS	14.68	mg/L
Instream TSS:	14.68	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

Mean annual streamflow at discharge:	0.05	ft^3/s
	33,477	gal/day
Dilution factor:	1.012	
IWC	99.98651925	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00		0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000		0.00	0.42	no
Chromium III	3.36.E+06	-0.930	0.00		0.00	152.49	no
Chromium VI	3.36.E+06	-0.930	0.00		0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00		0.00	2.95	no
Lead	2.80.E+06	-0.800	0.00		0.00	10.79	no
Mercury	NA	NA	NA		0.0000	1.40	no
Nickel	4.90.E+05	-0.572	0.00		0.00	119.99	no
Zinc	1.25.E+06	-0.704	0.27	50.00	13.26	29.97	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + \text{Flow}\ \left(^{gal}/_{day}\right)}{\text{Flow}\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00		0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000		0.00	0.08	no
Chromium III	3.36.E+06	-0.930	0.00		0.00	19.84	no
Chromium VI	3.36.E+06	-0.930	0.00		0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00		0.00	2.26	no
Lead	2.80.E+06	-0.800	0.00		0.00	0.42	no
Mercury	NA	NA	NA		0.0000	0.012	no
Nickel	4.90.E+05	-0.572	0.00		0.00	13.33	no
Zinc	1.25.E+06	-0.704	0.27	20.30	5.38	30.21	no
Selenium	NA	NA	NA		0.00	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + \text{Flow}\ \left(^{gal}/_{day}\right)}{\text{Flow}\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

(1)
$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)
$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name GRP-Madison Renewable Energy Facility LLC

NPDES Permit No. GA0050283 Outfall 002

Stream Data:

Receiving stream Hardness:	20	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.000522	ft^3/s
	337	gal/day
1Q10:	0.000372	ft^3/s
	240	gal/day

Effluent Data:

Flow	190,000	gal/day
TSS	15.00	mg/L
Instream TSS:	14.99	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

Mean annual streamflow at discharge:	0.65	ft^3/s
	420,077	gal/day
Dilution factor:	3.211	
IWC	99.82275997	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00		0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000		0.00	0.42	no
Chromium III	3.36.E+06	-0.930	0.20	11.00	2.17	152.49	no
Chromium VI	3.36.E+06	-0.930	0.20	11.00	2.17	16.00	no
Copper	1.04.E+06	-0.744	0.32	31.00	10.05	2.95	yes
Lead	2.80.E+06	-0.800	0.00		0.00	10.79	no
Mercury	NA	NA	NA		0.0000	1.40	no
Nickel	4.90.E+05	-0.572	0.00		0.00	119.99	no
Zinc	1.25.E+06	-0.704	0.26	740.00	195.14	29.97	yes

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + \text{Flow}\ \left(^{gal}/_{day}\right)}{\text{Flow}\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00		0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000		0.00	0.08	no
Chromium III	3.36.E+06	-0.930	0.20	11.00	2.17	19.84	no
Chromium VI	3.36.E+06	-0.930	0.20	11.00	2.17	11.00	no
Copper	1.04.E+06	-0.744	0.32	31.00	10.04	2.26	yes
Lead	2.80.E+06	-0.800	0.00		0.00	0.42	no
Mercury	NA	NA	NA		0.0000	0.012	no
Nickel	4.90.E+05	-0.572	0.00		0.00	13.33	no
Zinc	1.25.E+06	-0.704	0.26	159.30	41.99	30.21	yes
Selenium	NA	NA	NA		0.00	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + \text{Flow}\ \left(^{gal}/_{day}\right)}{\text{Flow}\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	6.99	0.011	9.10	0.014
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	114.62	0.182	113.63	0.180
Selenium	0.0	N/A	N/A	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name GRP-Madison Renewable Energy Facility LLC
NPDES Permit No. GA0050283 Outfall 002

Stream Data:

Receiving stream Hardness:	20	mg/L
Upstream TSS:	10	mg/L
7Q10:	0	ft^3/s
	337	gal/day
1Q10:	0	ft^3/s
	240	gal/day

Effluent Data:

Flow	190,000	gal/day
TSS	15	mg/L
Instream TSS:	14.99	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

n annual streamflow at discharge:	0.65	ft^3/s
	420,077	gal/day
Dilution factor:	3.211	

Water Quality Criteria (WQC)

Nonmetal	Maximum effluent C_r (µg/L)	Instream Concentration (µg/L)	WQC (µg/L)	WQC/2 (µg/L)	Action needed?
Cyanide	11.0	10.98	5.2	2.6	yes
Chloroform	1240.00	386.18	470	235	yes

$$\text{Dilution Factor} = \frac{\text{Mean annual streamflow at discharge}\left(\text{gal}/\text{day}\right) + \text{Flow}\left(\text{gal}/\text{day}\right)}{\text{Flow}\left(\text{gal}/\text{day}\right)}$$

	Chronic C_r (µg/L) 30-Day Avg	Chronic C_r (lbs/day) 30-Day Avg
Cyanide	5.209232846	0.043445002
Chloroform	470.8345072	3.92675979

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

APPENDIX D

ANTIDEGRADATION ANALYSIS

State of Georgia
Department of Natural Resources
Environmental Protection Division
Watershed Protection Branch

National Pollutant Discharge Elimination System (NPDES)
Industrial Antidegradation Analysis

SECTION 1. PROJECT INFORMATION

SECTION 2. ALTERNATIVES ANALYSIS

2.1 Provide the alternatives considered that could result in no degradation of surface waters. If the applicant selects an alternative that results in no degradation, the following sections are not required.

2.2 Provide the alternatives considered that could lessen degradation to surface waters. Identify which alternative(s) is/are technologically possible, able to be put into practice, and economically viable.

SECTION 3 SOCIAL OR ECONOMIC DEMONSTRATION - For each factor provide a discussion of expected positive and negative impacts. Include appropriate support documentation.

SECTION 4. PRACTICABLE ALTERNATIVE CHOSEN

SECTION 5. CERTIFICATION

Name and Title:	Indicate the name and title of the person signing the form.
Telephone No.:	Provide the telephone number of the person signing the form.
Date:	Indicate the date that the form was signed.

This form is an attached part of the NPDES permit application and must be signed in accordance with Georgia Rule 391-3-6-.06(5). Please refer to Georgia EPD's Antidegradation Analysis Guidelines for additional guidance in completing this form.

Please attach additional pages and/or documentation as needed.

GEORGIA DEPARTMENT OF NATURAL RESOURCES	**National Pollutant Discharge Elimination System (NPDES)** **Industrial Antidegradation Analysis**	GEORGIA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION

Section 1. Project Information

Facility Name: GRP Renewable Energy Facility, LLC	**NPDES Permit Number:**
Location: 125 HV Chandler Rd., Colbert, GA 30628	**County:** Madison
Receiving Waters Impacted: Unnamed Tributary to Beaverdam Creek	**Stream Classification:** Fishing

Section 2.1 Alternatives Analysis - Provide the alternatives considered that could prevent degradation of surface waters

A. Discharge to other treatment systems:
Discuss the availability of either public or private treatments systems with sufficient capacity and sophistication to treat the wastewaters generated by this project. Compare the feasibility and costs of such options with the feasibility and costs of the proposed treatment system.

See Attachment A.

B. 100% Reuse & 100% Recycle:
Discuss the potential of 100% year round urban water reuse and use of a 100% recycle system. Outline potential reuse customers &/or ways to recycle all of the generated wastewater. Provide feasibility and costs.

The plant is designed as a closed loop system which allows the utilized potable water to be cycled through the system at least 7 times before solid build up occurs. Thus, requiring discharge or disposal of the wastewater.

Option 1 Wastewater Reuse for Agricultural Irrigation--The facility does not have sufficient property for a land application of sufficient capacity to absorb the volume of process water generated and anticipated rain volumes. Therefore, this is not viable.

Option 2 Wastewater Resuse as Potable Drinking Water--use of reclaimed water straight from the wastewater treatment plant through a pipe-to-pipe system that connects the wastewater line directly to an established potable water supply system without intervening discharge to a natural water body.

Option 3 UIC--Replenishment of ground water by the controlled addition of reclaimed water to the ground water basin. Not thought to pose any health risk since it relies on natural treatment in surface water and aquifers. With either of these options, infrastructure and/or transportation costs, as well as, potential increased treatment requirements make these options financially difficult.

Additional infrastructure, such as trucking of wastewater to City of Elberton or a private treatment facility would cost approximately $11,625/day, and $13,950/day, respectively, and have treatment costs of $10,250 and $21,550/day, respectively; and purchase of suitable property and the installation/permitting of a UIC well ($220,000 to 300,000 depending on depth) and a cost of $15,800/day for trucking and O&M/utilities/testing. Transportation and/or infrastructure to use the wastewater in the surrounding agricultural area are likely to range between $10,000 and $15,000 per day. Additionally, the facility does not have sufficient property for a land application system of sufficient capacity to absorb the volume of process water generated and anticipated rain volumes. Therefore, the feasible option would be to discharge via an NPDES permit.

C. Land Disposal Treatment System:
Land treatment includes subsurface, drip irrigation, reuse and spray irrigation systems. Consideration should be given to the wastewater characteristics and whether the constituents are conducive to land application. Provide the following:
1) An estimate of the best case hydraulic loading rate based on County Soil Surveys or from a soil evaluation performed by a soil scientist should be provided. Acreage requirements may be driven by either hydraulics or agronomics.
2) Calculations showing hydraulic loading rate and total area of land needed for the land disposal system, including buffers.
3) The availability and cost of land and the cost of transporting the wastewater to a suitable, available site.
4) Overall feasibility and cost of use of land treatment.

See Attachment B.

D. No Increase In Pollutant Loading:
Expanding systems only - Evaluate the installation of a wastewater treatment system resulting in no increase in pollutant loading to the surface waters.

Not applicable.

Section 2.2 Alternatives Analysis - Provide the alternatives considered that could lessen degradation to surface waters

E. Treatment system design and selected technology:
Provide the preliminary treatment system design and selected technology/technologies to meet the wasteload allocation (WLA). Describe each candidate technology including the efficiency and reliability in pollutant removal and the capital and operational costs to implement those candidate technologies. Justify the selection of the proposed treatment technology. Provide feasibility and costs.

The facility will utilize potable water from Madison County for steam production. As the water evaporates there is a buildup of minerals in the remaining water. The only treatment required prior to discharge to Outfall 002 is pH adjustment and a clarifier to be used as needed to control phosphorous. During the boiler operations the pH is lowered to prevent scale buildup in the equipment and then the pH is adjusted prior to discharge. Phosphorous is present in the incoming water supply, received from Madison County and due to the recirculation of cooling water in the cooling towers, the phosphorous concentration can increase.

The wastewater treatment via pH adjustment and use of a clarifier for phosphorous treatment are industry standard acceptable treatment methods and based on an anticipated 205,000 gallon per day discharge, it is estimated to cost $3,450/week, for pH treatment, clarifier chemicals, daily inspections, and routine O&M, including weekly clean out of the clarifier. Additionally, the clarifier system will have an initial capital cost of approximately $112,030. This provides for an estimated annualized cost over 10 years of $190,600/year.

For Outfall 01, the existing pond allows for settling of any solids.

F. Flow minimization
Evaluate potential water conservation opportunities (partial recycling and/or reuse opportunities of wastewater) including the feasibility of implementation and the costs. Indicate which of these may be implemented.

The facility is a closed loop system that utilizes potable water in at least 7 cycles without risking damage to the boiler and associated equipment. No additional potential water conservation opportunities exist.

G. Pollution reduction measures:
Discuss the pollution prevention measures evaluated including the feasibility of those measures and the cost. Measures to be addressed include but are not limited to changes in processes, source reductions or substitution with less toxic substances. Indicate which measures are to be implemented.

See Attachment A.

H. The use of best management practices (BMPs) to minimize impacts:
Discuss the consideration and use of best management practices that will assist in minimizing impacts to water quality from the proposed permitted activity.

Outfall 02:
(1) Installation of a conductivity controller to control blowdown and measure the conductivity of the cooling tower blowdown and discharge water when the conductivity set point is exceeded. Conductivity meter to determine the relative mineral concentration of the recirculating and make-up water.
(2) Keep a log of make-up and blowdown quantities, conductivity, and cycle concentrations to monitor trends to spot deterioration in performance.
(3) Inspect the cooling tower on a regular basis for leaks or other unauthorized draw-off.
(4) Inspect system components including boiler and area sumps, conductivity controller, make-up water valve, and blowdown valve on a regular basis.
(5) Contracted with a reputable water vendor to provide boiler and cooling tower blowdown water treatment chemicals (industry standard) which include: CWT 3230; CWT 101AF (antifoam); Power PM 1750; Power MP 1750 (boiler internal treatment); Powerline S 19; Sulfuric Acid, PhosZero1400; and Liquichlor 12.5.
(6) Monitor fire pond/wastewater holding area prior to discharge and provide for pH adjustment, as necessary, of wastewater prior to discharge to Outfall 002.
(7) Inspect the clarifier system daily and weekly for proper operation and maintenance.
Outfall 01:
The facility will implement quarterly inspections of the discharge area similar to the requirements of the General Industrial Stormwater Permit to ensure BMPs such as good housekeeping and spill prevention are properly implemented. These documented inspections will be supplemented by undocumented weekly walk-through of the facility to identify any potential deficiencies.

I. The use of best management practices (BMPs) to minimize impacts:
Discuss the consideration and use of best management practices that will assist in minimizing impacts to water quality from the proposed permitted activity.

See item H above.

Section 3. Social or Economic Demonstration

A. Define the boundary of the affected community:
Specify the geographic region the proposed project is expected to affect. Include the name of all cities, towns, and counties. This geographic region must include the proposed receiving water.

The GRP-Madison, LLC site is located at 125 HV Chandler Drive, Colbert, Madison County, Georgia. The latitude/longitude coordinates are: 34.042862, -83.191151. Wastewater from the facility operations and stormwater is expected to discharge from Outfall 02, which will discharge to an unnamed tributary to Beaverdam Creek. Additionally, only stormwater will discharge from Outfall 01, which will discharge to an unnamed tributary to Beaverdam Creek.

See Figure 1.

B. The effect on employment in the affected community:
Compare current unemployment rates in the affected community to current state and national unemployment rates. Discuss how the proposed project will positively or negatively impact those rates, including quantifying the number of jobs created and/or continued and the quality of those jobs.

Madison County's population is estimated at 29,650 people, with a median household income of $51,700, and empoyment rate of 59.9% based on US Census estimates from July 2019. -

The GRP Madison Renewable Energy facility delivers the following economic impacts:
- Payment of over $1,600,000 per year in tax revenue to the county.
- Over 29 direct well paying jobs and 400 downstream jobs created
- Over $3,000,000 in direct payroll and benefits
- GRP has paid for a $3,500,000 water system upgrade for Madison County, vastly improving the water system.
- Provides electricity to over 60,000 homes per year.

C. The effect on median household income levels in the affected community:
Compare current median household income levels with projected median household income levels. Discuss how the proposed project will positively or negatively impact the median household income in the affected community including the number of households expected to be impacted within the affected community.

Local average income of Madison County is estimated at $51,700. Permanent staff at GRP-Madison, LLC will benefit from average salary of $60,000 per year plus bonuses and healthcare. It is estimated that there will be 36 permanent staff. Seasonal and temporary staff will earn approximately $25 per hour and higher.

D. The effect on tax revenues of the affected community:
Compare current tax revenues of the affected community with the projected increase in tax revenues generated by the proposed project. Discuss the positive and negative social and economic impacts on the affected community by the projected increase.

The GRP Madison Renewable Energy facility project is estimated to have a $165M investment, and is contracted to supply Georgia Power for 30 years, with renewable energy supplied power. The plant will strengthen the power supply on the local grid. Additionally, GRP-Madison, LLC is contracted with Madison County for supply of potable water (contract worth approximately $24M annually), and has paid approximately $3.5M for upgrades to the Madison County water system

In addition to these direct impacts, the facility will pay approximately $1.6M in taxes annually to Madison County providing significant funding to the county. While there are some community concerns about the facility, this due primarily to issues during commissioning of the boiler.

E. The effect on existing environmental issues in the affected community:
Discuss how the proposed project will have a positive or negative impact on existing environmental issues.

The discharge from the facility is to an unnamed tributary, which discharges to Beaverdam Creek, a stream impaired for Biota F. The discharge water from the facility will have a positive environmental impact on Beaverdam Creek by introducing cleaner water into the impaired stream.

The GRP-Madison project is not expected to have an affect on public health. Best available technology has been installed in the plant with strict control measures in accordance with the EPD issued Air Permit (Permit No. 4911-195-0020-E-01-0. The following abatement systems have been installed to minimize NOX and CO emissions: (1) electrostatic precipitator; (2) cyclone; (3) selective catalytic reduction system; and (4) oxidation catalyst.

Additionally, the facility will have pretreatment systems, including a pH adjustment system and clarifier be used, as neccesary, to ensure compliance with wastewater discharge requirements.

F. Discuss any other economic or social benefit to the affected community:
Discuss any positive or negative impact on the economy of the affected community including direct and or indirect benefits that could occur as a result of the project. Discuss any positive or negative impact on the social benefits to the community including direct and indirect benefits that could occur as a result of the project.

GRP-Madison, LLC continually evaluates opportunities to provide additional funding for investments in local projects, such as park and playground refurbishments and providing educational opportunities for the local school district concerning electricity, power generation, and engineering. Additionally, it is intended that the furnace ash generated from the plant operations can be used as a soil amendment. This will be supplied to local farmers as a low cost option and to landfills as a soil cover.

G. Economic Analysis
Provide valid cost comparisons of the alternatives analysis as compared to the practicable alternative chosen for implementation. The analysis should include all monetary costs associated with construction, startup, and annual operation and maintenance of a facility.

Alternative 1--Wastewater Treatment (pH adjustment and clarifier system (as needed) and discharge via Individual Industrial Wastewater NPDES Permit. Estimated initial capital cost of $112,030 and weekly operating cost of approximately $3,450/week. The weekly operating costs includes chemicals ($1,750/week) and weekly labor and operational costs ($1,700/week) to operate, clean out and sample the waters and wastes generated. This would equate to an annualized cost over 10 years of $190,600.
Alternative 2--Land Application-- See Attachment B for a discussion of the economic costs for the purchase of property, improving the property, and operating a land application system.
Alternative 3--Discharge to City/County sewer--Lines are not available at this time and city is not expected to have sufficient capacity to treat the entire volume of wastewater based on the city's current and future expected and permitted capacity.
Alternative 4--UIC-- See Attachment B. The costs of installing and operating an off site UIC system will be similar to the principle economic costs for the purchase of property, improving the property, and operating an LAS system.
Alternative 5--Trucking to City of Elberton POTW-- Trucking 205,000 GPD to POTW costs approximately $11,625/day and treatment fees are approximately $10,250/day, or an annual cost of $7,984,375.
Alternative 6--Trucking to Private Treatment Facility--Trucking 205,000 GPD to Aqua Terra, a private treatment facility, costs approximately $13,950/day if trucking completed by contracted trucking company or $21,550/day if trucking completed by Aqua Terra and treatment fees are approximately $16,400/day or $11,077,750/year.

H. Return Flow Considerations (Optional):
Demonstrate that water quantity in the receiving water is limited and there are potential water quantity gaps under low flow conditions, then the water quantity benefits of allowing a surface water discharge outweigh the effects of lower water quality resulting from the discharge provided the water quality to protect the existing uses will be maintained. This demonstration might include, but is not limited to, references to surface water flow needs identified in an applicable Regional Water Plan, TMDL, applicable recommendations for water management or the need to support aquatic life and drinking water supplies.

Section 4. Practicable Alternative Chosen – include rationale

Alternative 1 - Discharge via Individual Industrial NPDES Wastewater Permit. This is based on the cost comparison of the other alternatives. Additionally, this alternative is standard industry practice for similar plants.

Section 4. Certification	
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
Name: DAVID H GROVES	**Date:** 01/04/22
Title: PLT MANAGER	**Telephone:** 910 477 1198
Signature:	

Attachment A: Section 2.1.A

Option 1 Offsite treatment-- The city of Colbert and the surrounding unincorporated area does not provide sanitary sewer service to the facility. Additionally, there is not a private treatment system within a 25-mile radius with sufficient capacity to treat the entire volume of the wastewater generated by this project, as the only available private facility is Aqua Terra, which is 57.4 miles from the facility, and the only public utility with sufficient capacity is the City of Elberton, which has two treatment facilities that are 23.4 miles and 23.3 miles from the facility.

The Madison County IDBA WPCP currently has a total capacity to treat and discharge up to 50,000 gallons per day (GPD) via its LAS and treats an average of 10,000 GPD from its commercial and residential customers. The IDBA is currently evaluating the possibility of updating the permit to allow for up to 60,000 GPD of water to be discharged to the LAS. Assuming 25% of the updated capacity would be available to GRP Madison, then 15,000 GPD would be avaialble, which is still much less than the overall treatment capacity needed for the facility. Therefore, this option would only be considered by the facility, if permit approved, as an emergency option. In either case, IDBA would not be a publicly available option as it does not have the capacity to land apply the entire volume of wastewater that is anticipated to be generated by the facility and may not have the ability to treat the wastewater in the treatment plant prior to discharging the water to the LAS due to the low organic content of the water from the facility.

The City of Elberton does have the potential capacity to accept and treat the wastewater generated by the facility as the City has a total treatment capacity of 1.5 MGD; however the cost to truck the water to the POTW and sewerage fees would cost approximately $21,875/day. Daily costs for disposal of wastewater at the City of Elberton includes trucking costs of $350/6,700 gallon tanker truck load (approximately 31 loads/day), and sewer treatment costs of $50/1,000 gallons. This equates to an approximate cost of $7,984,375/year, which far exceeds the cost to operate under an NPDES permit with a treatment system, which would cost approximately $522/day, $190,600/year over 10 years, if needed to meet permit limitations.

Option 2 Off-site Land Application System (LAS)--Based on a review of EPD's Wastewater_Permits_01-31-2020 Microsoft Excel® spreadsheet, there are two Municipal LAS permitted facilities and no industrial LAS permitted facilities within a 20 mile radius of GRP. These include the Madison County IDBA WPCP and University of Georgia (Composting Facility); however, the Madison County IDBA WPCP is the only permitted LAS facility within a 10 mile radius of the facility, and does not have the capacity to treat and dispose of the entire volume of process wastewater from Outfall 02. See Attachment B for a discussion of the cost to purchase and operate an LAS system off-site.

Option 3 Underground Injection Control (UIC)--There are no known public/private injection wells in Madison County. The facility is expected to discharge an average of 205,000 gallons of process water from Outfall 02 per day. If an offsite public/ private treatment system (wastewater treatment system, LAS, UIC) would be available, the facility would have to store the wastewater and transport the wastewater on a daily basis for treatment. The best case scenario would be a distance approximate to the Madison County IDBA WPCP facility, therefore the cost to transport the water to a currently unknown UIC would be approximately $9,300/day (31 trips for a 6,700 gallon tank truck at a cost of approximately $300/load) with disposal fees estimated at $100/1,000 gallons for a total cost of $10,877,000/year. Similar to Option 1, this option far exceeds the cost to operate under an NPDES permit. See Attachment B for a discussion of the cost to purchase and operate an LAS system off-site, as the costs for purchasing a property and operating a UIC system, is assumed to be similar.

The preferred option would be to discharge via an NPDES permit at an estimated cost of $522/day for pH adjustment, clarification (as needed), daily inspections, equipment operation, clean-out, testing, and capital costs.

Attachment B: Section 2.1.C

(1) Based on the Soil Survey of Elbert, Franklin, and Madison Counties, Georgia, the dominant soils of Madison County in upgradient areas consist of well drained loamy surface soils with clayey subsoils. This is consistent with the Madison County IDBA WPCP, therefore a maximum estimated hydraulic loading rate of 2.13 in/week.

(2) Conservatively the area necessary to treat the Average Flow from Outfall 02 (0.205 MGD) is determined as:

Equation 1: Conservative Calculation of Area Required for Outfall 02 Average Flow

Area (Acres)=(Total Design Flow (Gal/week))/[Hydraulic Loading Rate (in/week)÷12(in/ft)×

43,560(ft^2/acre)×7.48(gal/ft^3)]

Area (Acres)=(1,435,000 (Gal/week))/[2.13 (in/week)÷12(in/ft)×43,560(ft^2/acre)×7.48(gal/ft^3)]

Area (Acres)=24.81

Additional land area for a buffer area consisting of 25 feet from all property lines would add an additional 2.5 acres, assuming a square property, for a total area of 27.31 acres.

(3) Most properties of sufficient size that are for sale in the area have a cost of approximately $8,000/acre; however, most if not all of the currently listed properties include one or multiple streams or other water features on the property, which would limit the available land area to construct an LAS system, and require significant modifications to the properties to prepare them for an LAS system. If a suitable property were found, it is estimated to cost between $220,000 and $300,000, which does not include the necessary improvements, trucking of the water to the holding pond, or O&M costs. These costs are estimated in the range of $200,000 - $500,000 to prepare the property and install the LAS system, $12,300/day to transport the water to the LAS site, and $3,500/day to manage, maintain, and operate the LAS system.

Therefore, the total initial cost is expected to be approximately $720,000, and annual operating costs are expected to be $5,767,000 including trucking and operating/maintenance for a total annual cost over 10 years of $5,839,000.

(4) While land application may be feasible, it will be difficult to find a suitable property within a close enough range of GRP Madison to make trucking of 0.205 MGD to the LAS site feasible. Even in a best-case scenario it is estimated to cost GRP approximately $5,839,000/year over 10 years, which far exceeds the cost of operating under an NPDES permit, $190,600/year or less.

Trinity Consultants

MEMORANDUM

To: Whtiney Fenwick (EPD)

From: Josh Haar, P.E. (Trinity Consultants)

Date: January 4, 2022

RE: GRP Madison Renewable Energy Facility, LLC – Antidegradation Analysis Costing Memo

This memorandum is being provided as documentation to the Georgia Environmental Protection Division (EPD) to identify the methods used to develop the cost assessments for the economic analysis required by Section 3.G of EPD's Industrial Antidegradation Analysis for the GRP Madison Renewable Energy Facility, LLC (GRP) located in Colbert, Madison County, Georgia.

Background

As part of the Antidegradation Analysis the following options for wastewater treatment/disposal were identified and the costs for each are documented.

- Wastewater Treatment and disposal via NPDES discharge permit
- Land Application System
- Underground Injection Control
- Trucking to City of Elberton POTW
- Trucking to Private Treatment Facility

The costs associated with disposing of 205,000 gallons of industrial wastewater utilizing each of these options is discussed in the following sections.

Wastewater Treatment and Disposal via NPDES Discharge Permit Costs

GRP has installed a pH adjustment system, reverse osmosis system, and clarification system. The total cost as documented in the invoices in Attachment A for installing these systems, including infrastructure items, like concrete pads and electrical installations, was $190,600. Additionally, the facility estimates that it will cost approximately $3,450/week to maintain and operate the treatment system. This estimate is based on anticipated chemical usage (approximately $1,750/week) and labor, lab, and waste disposal costs of approximately $1,700/week.

Land Application System Costs

As documented in the antidegradation analysis, GRP does not have sufficient property area to install a land application system at the facility. Therefore, a nearby property (within 10 – 20 miles) would need to be purchased and upgraded for the installation of the system. As documented in Attachment B, property of sufficient area will cost a minimum of $8,000/acre. Additionally, depending on the topography of each property, significant regrading or other upgrades to ensure land applied wastewater would not discharge to any onsite/offsite surface waters. It is conservatively estimated that the cost to modify the property and install the land application system would cost approximately $200,000 - $500,000. This would include regrading, installation of access roads, holding ponds or tanks, and the installation of the LAS.

3495 Piedmont Rd, Bldg 10, Ste 905, Atlanta, GA 30305
P 678.441.9977 / F 678.441.9978

Additionally, the wastewater will be trucked from GRP Madison to the purchased property. Assuming it is within a 20-mile radius of the facility, the trucking costs would be similar to the costs of trucking water to the City of Elberton, which costs $350/load, as documented in Attachment C. As it would take 31 loads utilizing a 6,700-gallon tank truck to transport the wastewater, the daily and annual trucking costs would be $11,625 and $4,243,125, respectively.

Finally, GRP has estimated daily operating and maintenance costs of approximately $3,500/day. This includes the labor needed to manage the system on a daily basis, maintenance of the system, testing and monitoring that would be required by an LAS permit, and operation of the system.

Underground Injection Control System Costs

As documented in the antidegradation analysis, it is anticipated that an underground injection control system, similar to a septic system, would require similar land area and improvements, trucking, and operation and maintenance costs as the land application system.

Trucking to City of Elberton POTW Costs

As documented in the antidegradation analysis, the cost to dispose of wastewater in the City of Elberton POTW is composed primarily of trucking and disposal costs. As detailed in Attachment C, the cost of trucking Water to the City of Elberton is $350/load and the sewerage/treatment fee charged by the City of Elberton is $50/1,000 gallons. Therefore, the daily trucking and disposal costs are estimated at $10,850 and $10,250, respectively, and has a total annual cost estimated at $7,701,500.

Trucking to Private Treatment Facility Costs

As documented in the antidegradation analysis, the cost to dispose of wastewater in a private treatment facility (Aqua Terra) is composed primarily of trucking and disposal costs. As detailed in Attachments D, the cost of trucking Water to Aqua Terra costs $450/load ($13,950/day) when using a contracted trucking company or $21,550/day if trucking is completed by Aqua Terra. Additionally, the treatment fee charged by Aqua Terra is $80/1,000 gallons. Therefore, assuming that a contracted trucking company is used, the daily trucking and disposal costs are estimated at $13,950 and $21,550, respectively, and has a total annual cost estimated at $11,077,750.

Attachment A. Treatment System Invoices/POs

RO Service and Wastewater Plant

Client: Veolia Georgia	Date: 7-23-2021
Address: 125 HV Chandler Rd Colbert, Ga	Reported to Dave Groves, Dan Rock

OUR MISSION:

We are dedicated to providing clients with premium quality, competitively priced products and unparalleled service. We will continually strive to exceed the expectations of the clients we partner with by listening to, understanding and anticipating their unique needs.

This document is provided as a quotation and system description for a package Wastewater Treatment System.

Background:

The Madison Site has an onsite Pond that has been cycled over the last year with Cooling Tower Blowdown and RO Reject (Concentrate) Water. This is due to the Site not having a Discharge Permit with the state at commissioning of the plant. The Pond RO has been used to recycle the water in the Pond and use in the cooling tower. To date ~10.3 MM gallons ($36k in city water savings and avoided haul off cost of $891k) of water has been recycled through the RO. This unique treatment system allowed the site to stay in operation at lower cost that hauling truck loads of water offsite over the last 12 months.

Now that we have a discharge permit on the way, Zee was asked to provide a method and quote for treatment of the cycled water in the pond. The pond has more than the allowable anticipated discharge limits on Phosphorus and Copper. This proposed system will reduce these parameters to below the limits and allow for efficient and compliant discharge of waste waters from the Site.

System Description:

Zee has performed numerous jar studies to determine the correct recipe of Coagulants and Flocculants to remove the Phosphorus and Copper form the pond waters.

Refer to attachment below for process flow diagram, as you review system description below.

Water from the pond will pumped using existing booster pump to a Veolia owned RO where the permeate will be directed to the Cooling Tower and the Concentrate will sent to a Flocculation Tank (FT). This water will have much higher Phosphorus and Copper levels than just neat pond water, as RO Concentrate.

CI-95 will be added as a coagulant at the FT and a mixer will be used for mixing of the chemistry with the concentrated water from the RO. The FT will overflow to the Primary Clarifier (PC) where a Cationic Polymer (EC-51) will be added to pull together the Floc that was formed in the FT. These solids will sink to the bottom of the PC where they will be periodically drained. The clean water from the PC will overflow to the Secondary Clarifier (SC) for additional settling and detention time. This will also be used as a wide spot in the line for storage of clean water prior to discharge from the site. The treated water will then be pumped through sand filtration and then sent off site. In the event of a high level in the SC the water will overflow back to the pond.

Pricing Summary:

Zee has provided rental and purchase options for this system. These are summarized in the table below.

Equipment Rental	
Equipment	**per month**
RO Service (prefilters, 1 cleaning/month)*	$ 5,769
Sand Filters	$ 3,356
Tanks	
400 gal	$ 189
1200 gal	$ 425
2500 gal	$ 676
Total	**$ 10,415**

The rental fees are for a minimum of 6 months. Additional cleanings are $2669 each.

Setup, delivery and mobilization cost are below.

Initial Fees	
Mixer	$ 587
4" Suction Hose (1000 feet)	$ 1,200
Camlok ends	$ 1,200
Sludge Pump	$ 3,256
Delivery and setup	$ 8,200
Tank Bulkhead fittings	$ 1,987
Cable	$ 2,346
Sand Filter Media	$ 9,369
Total	**$ 28,145**

The site needs to provide the items in the table below.

Needed on site/by site	
	Size
Concrete Pad	30'x50'x12' with shelter
Shelter	for RO and Sand Filters
RO Power	480 v 60 amps
Effluent Pump	TBD based on discharge location
Operator(s)	

The chemistries required to treat the concentrate are listed below.

Chemical			
	Estimate		
CI-95	$	1.51	/lb
EC-51	$	4.25	/lb
Zee Cip 8	$	2.52	/lb
Max S	$	0.89	/lb
Vitec 4000	$	8.56	/lb
Biocide 1	$	6.34	/lb

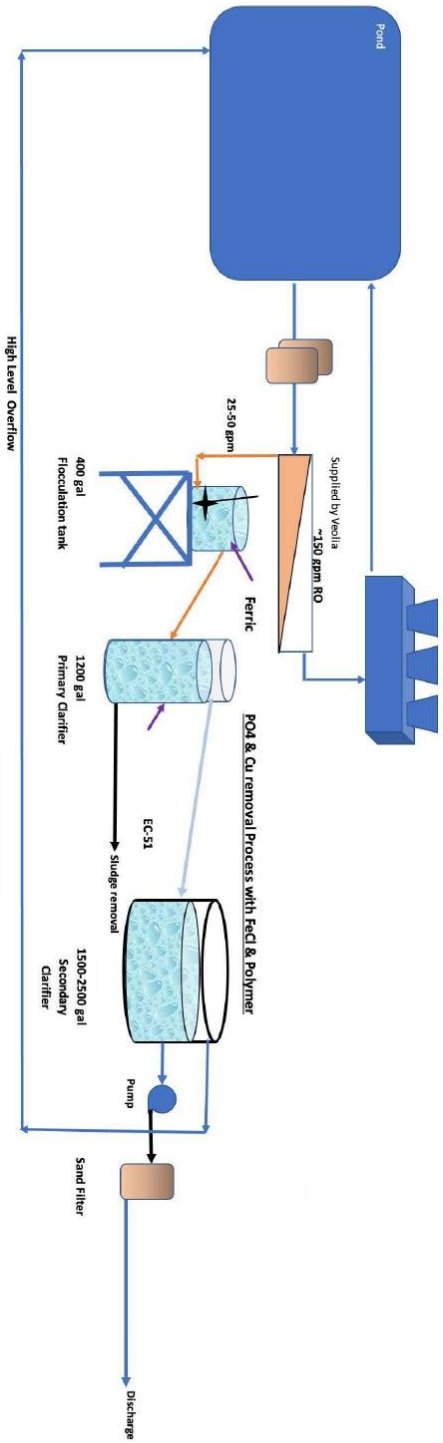
Zee will provide 2 weeks of onsite training/operation for the operations team at the beginning of operation and will also provide periodic visits to review system operations, service and assist on system maintenance.

Training Support			
Hotel	$	168	/night
Food	$	60	/day
Fuel	$	280	4 trips
Hotel	$	2,240	$160/night 14 days
Trainer/Labor	$	14,000	$125/hour 2 weeks (8 hr/day)
Total	$	16,748	

Thanks for the opportunity to continue serving your water needs. Please let me know if you have any questions.

Billy Hines
Regional Manager
ZEE Company
(910) 409-5132

Page 4 of 4 : ZEE Company Technical Proposal



VEOLIA

Groves, David H <david.groves@veolia.com>

V548 - Veolia Energy Operating Services, LLC Purchase Order #1006345

1 message

Mary Munn <do_not_reply@veolia.coupahost.com> Thu, Aug 26, 2021 at 12:15 PM
To: david.groves@veolia.com

VEOLIA

PURCHASE ORDER

ZEE COMPANY INC CHATTANOOGA
412 GEORGIA AVE SUITE 300
CHATTANOOGA, TN 37403
Attn: BILLY HINES

COMPANY CODE	**V548 - Veolia Energy Operating Services, LLC**
PO NUMBER	**1006345**
DATE	**08/11/2021**
PAYMENT TERMS	**60 days**
SHIPPING TERMS	
CURRENCY	**USD**
CONTRACT	
CONTACT	**Mary Munn** mary.munn@veolia.com

Ship To
125 HV CHANDLER RD.
COLBERT, GA 30628
Site ID: 40628
Attn: Mary Munn

Bill To
125 S. 84th Street Suite 175
Milwaukee, WI 53214
Attn: Accounts Payable

Line	Description	Qty	Unit	Price	Total
1	RO Service and Wastewater Plant per proposal dated 07232021: Rental Costs 12/31/21			12,000.00	12,000.00
2	RO Service and Wastewater Plant per proposal dated 07232021: Initial Fees/Set-Up Costs 12/31/21			30,000.00	30,000.00
3	RO Service and Wastewater Plant per proposal dated 07232021: Training/Support Costs 12/31/21			16,000.00	16,000.00
4	RO Service and Wastewater Plant per proposal dated 07232021: Chemicals 12/31/21			5,000.00	5,000.00
		0	Units		**63,000.00** USD

PLEASE NOTE:

- All invoices should be submitted to: Veolia North America, Accounts Payable at: us.apinvoices@veolia.com **Attach only one (1) pdf invoice per email**

- Or via mail to: 125 S. 84th Street Suite 175, Milwaukee, WI 53214 for timely processing. Veolia's preferred method for receiving invoices is via the email address provided above.
- Please make sure that when submitting invoices via email, that they are formatted as a PDF to eliminate any system errors.
- Submitted invoices must include the PO number or the site ID.
- Please contact our Veolia Shared Services Center at **866-688-0988 Option 3**, or via email at us.apsupport@veolia.com for questions or concerns regarding your invoices.
- **IMPORTANT:** Invoices that do not include the above required information may be rejected.

This Purchase Order shall be governed by the terms and conditions of the contract referenced herein. Absent such reference, this Purchase Order shall be governed by the applicable supply agreement or service agreement between the parties. Absent such supply agreement or service agreement, this Purchase Order shall be governed by the Purchase Order Terms and Conditions located at https://www.veolianorthamerica.com/vendors-and-suppliers

purchase_order.html
11K

Zee Company
412 Georgia Ave Ste 300
Chattanooga TN 37403-1853 US
(423)265-7090

QUOTE

Quote Number: QTE016031
Quote Date: 08/06/2021
Salesperson: 7230
Customer: GRP-COG-WTR
Customer PO:
Expiration Date:

Sold To	Ship To
VEOLIA MADISON BIOMASS - COLBERT ATTN: Ap - Site Id 40628 125 S 84th St Ste 175 Milwaukee, WI 53214-1499	VEOLIA MADISON BIOMASS POWER PLANT 125 H V Chandler Rd Colbert, GA 30628-3722

Item		Quantity	UOM	Unit Price	Amount
1	NEXTSAND NEXTSAND FILTER MEDIA,1 CF BAG	80	Piece	41.60	3328
2	GRAVEL-1/4X1/8 GRAVEL,1/4 x 1/8,50 LBS BAG	22	Piece	36.40	800.80

Net Order:	**4,128.80**
Freight Charges	**0.00**
Fuel Surcharge	**0.00**
Sales Tax	**289.00**
Balance USD	**4417.80**

Please note that freight charges are subject to change and may be added to this order during shipping.

UNLESS OTHERWISE SPECIFIED, ALL QUOTES EXPIRE IN 30 DAYS.

Page 1 of 1

VEOLIA

Groves, David H <david.groves@veolia.com>

Purchase Approval Request for David Martin - Requisition #1160631

1 message

Coupa Approval Notifications <approvals@veolia.coupahost.com> Fri, Aug 27, 2021 at 9:03 AM
Reply-To: approvals+8a6a089c6d883245d371ac5cf5463807a760e7f3@veolia.coupahost.com
To: david.groves@veolia.com

VEOLIA Purchase Approval Request for David Martin - Requisition #1160631

Powered by coupa

Hi David,

Requisition #1160631 from David Martin is ready for your approval!

Submitted By David Martin

Total **10,415.67** USD

Items	**1 SIEMENS INDUS PNW2020B1100C 100A Main Breaker Cu Gry** Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	201.00 USD
	2 SIEMENS INDUS Q230 2P 30A 120/240V CB Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	23.98 USD
	5 SIEMENS INDUS Q115 SP 15A 120/240V CB Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	26.25 USD
	5 SIEMENS INDUS Q120 SP 20A 120/240V CB Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	26.25 USD
	1 P & S CRB5362-W 20A 125V CONST DUP REC WHT Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	3.85 USD
	1 MM410C 1G HOR/VERT 16 IN 1 CLEAR 2.75" DEEP Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	10.29 USD
	1 TOPAZ ELECTRIC 111 1/2" RGD OFFSET NIP Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	1.92 USD
	1 FPE T48LH2D-15 3PH VENTILATED 480V PRI AL Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	962.18 USD
	1 FPE WS-2 WS2	16.67 USD

Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	
300 PIPE GALV200 2" GALVANIZED CONDUIT Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	4,236.00 USD
300 PRIORITY 2-03TCG-VN # 2 /3C W/ GRD TRAY CABLE Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	2,457.00 USD
4 TOPAZ ELECTRIC 65 1-1/2" RIGID CONDUIT ELBOW Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	62.51 USD
6 TOPAZ ELECTRIC 55 1-1/2" RIGID CPLG GALV STL Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	37.36 USD
6 TOPAZ ELECTRIC 66 2" RIGID 90D ELBOW GALV STL Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	132.67 USD
6 TOPAZ ELECTRIC 56 2" RIGID CPLG GALV STL Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	52.38 USD
6 TOPAZ ELECTRIC LB5M 1-1/2" RIGID MALL LB Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	150.12 USD
6 MADISON LFN-125 1-1/4"-1-1/2" NEOPRENE GASKET Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	10.98 USD
6 TOPAZ ELECTRIC 574MHDG 1-1/4" & 1-1/2" Mall Iron Cover Hdg 25P Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	103.90 USD
1 TOPAZ ELECTRIC 64553 1-1/2" X 3" CONDUIT NIPPLE Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	6.02 USD
1 TOPAZ ELECTRIC 64556 1-1/2" X 6" CONDUIT NIPPLE Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	10.39 USD

and 12 more

Justification

Madison RO Project.
Account Summary - Front of Budget Madison RO Project

Looks good - want to approve?	Something's wrong - need to reject?	Need more info?
Click the approve button below or simply reply to this email with the word **Approve**.	No worries, just click the reject button below or reply to this email with the word **Reject**.	Click **View Req** and you'll be taken online to see everything.

View Req Reject Approve

More Detail

Submitted By	David Martin
Requisition #	1160631
Justification	Madison RO Project. Account Summary - Front of Budget Madison RO Project
Attachments	Quotation_TOC_38910_(1).pdf (Internal)
Rebill / Refacturation	No
R12 PO Recreation	No
OWAM Plant	
WAM Requester	None
Source System / Systeme D'Origine	None
Source PO No. / No. De PO D'Origine	None
Buyer / Acheteur	
Supplier Order Number	None
Site ID	
CAPEX	No
Non-Compliant Purchase	None

Ship To Address

125 HV CHANDLER RD.
COLBERT, GA 30628
United States
Location Code: 40628
Attn: David Martin

Billing

V548 - Veolia Energy Operating Services, LLC

51110100-H6102046-V548-ENR MADISON OPERATG

- Account: **51110100**
- CCNode: **H6102046 (H6102046)**
- CostCntr: **V548-ENR MADISON OPERATG (6102046141)**

Lines

1 SIEMENS INDUS PNW2020B1100C 100A Main Breaker Cu Gry for **201.00 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **PNW2020B1100C** • Pandemic Related Purchase **No** • Industry Code **Z987**

2 SIEMENS INDUS Q230 2P 30A 120/240V CB for **23.98 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH**

VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR) • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **SIEMENS INDUS Q230** • Pandemic Related Purchase **No** • Industry Code **Z987**

5 SIEMENS INDUS Q115 SP 15A 120/240V CB for **26.25 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **SIEMENS INDUS Q115** • Pandemic Related Purchase **No** • Industry Code **Z987**

5 SIEMENS INDUS Q120 SP 20A 120/240V CB for **26.25 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **SIEMENS INDUS Q120** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 P & S CRB5362-W 20A 125V CONST DUP REC WHT for **3.85 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **P & S CRB5362-W** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 MM410C 1G HOR/VERT 16 IN 1 CLEAR 2.75" DEEP for **10.29 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MM410C** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 TOPAZ ELECTRIC 111 1/2" RGD OFFSET NIP for **1.92 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 111** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 FPE T48LH2D-15 3PH VENTILATED 480V PRI AL for **962.18 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **FPE T48LH2D-15** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 FPE WS-2 WS2 for **16.67 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **FPE WS-2** • Pandemic Related Purchase **No** • Industry Code **Z987**

300 PIPE GALV200 2" GALVANIZED CONDUIT for **4,236.00 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **PIPE GALV200** • Pandemic Related Purchase **No** • Industry Code **Z987**

300 PRIORITY 2-03TCG-VN # 2 /3C W/ GRD TRAY CABLE for **2,457.00 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **PRIORITY 2-03TCG-VN** • Pandemic Related Purchase **No** • Industry Code **Z987**

4 TOPAZ ELECTRIC 65 1-1/2" RIGID CONDUIT ELBOW for **62.51 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 65** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 55 1-1/2" RIGID CPLG GALV STL for **37.36 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 55** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 66 2" RIGID 90D ELBOW GALV STL for **132.67 USD**

Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 66** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 56 2" RIGID CPLG GALV STL for **52.38 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 56** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC LB5M 1-1/2" RIGID MALL LB for **150.12 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC LB5M** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 MADISON LFN-125 1-1/4"-1-1/2" NEOPRENE GASKET for **10.98 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LFN-125** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 574MHDG 1-1/4" & 1-1/2" Mall Iron Cover Hdg 25P for **103.90 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 574MHDG** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 TOPAZ ELECTRIC 64553 1-1/2" X 3" CONDUIT NIPPLE for **6.02 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 64553** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 TOPAZ ELECTRIC 64556 1-1/2" X 6" CONDUIT NIPPLE for **10.39 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 64556** • Pandemic Related Purchase **No** • Industry Code **Z987**

50 POWER-STRUT PS 200 EH 10 DEEP STRUT E HOLES GALV PGAL for **165.41 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **POWER-STRUT PS 200 EH 10** • Pandemic Related Purchase **No** • Industry Code **Z987**

60 WI UPC2 UNIVERSAL PIPE CLAMP 2 for **87.63 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **WI UPC2** • Pandemic Related Purchase **No** • Industry Code **Z987**

4 MADISON LBM-200 2" MALL RGD COND BODY for **178.24 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LBM-200** • Pandemic Related Purchase **No** • Industry Code **Z987**

4 MADISON LFN-200 2" NEOPRENE GASKET for **8.39 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LFN-200** • Pandemic Related Purchase **No** • Industry Code **Z987**

4 MADISON LM-200 2" MALL COND BODY CVR for **68.30 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LM-200** • Pandemic Related Purchase **No** • Industry Code **Z987**

100 WI 620330 WI LT FLEXMT COND 100FT X 3/4 for **225.22 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **WI 620330** • Pandemic Related Purchase **No** • Industry Code **Z987**

50 WI 620624 WI LT FLEXMT COND 50FT X 1-1/2" for **278.50 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **WI 620624** • Pandemic Related Purchase **No** • Industry Code **Z987**

50 WI 620724 WI LT FLEXMT COND 50FT X 2" for **364.80 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **WI 620724** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 16 2" RGD 45 CONDUIT ELBOW for **151.43 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 16** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 EBOX 4-66RT 6X6X48 RT GUTTER for **113.88 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **EBOX 4-66RT** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 476S 2" STRAIGHT LIQUID TIGHT CONN MAL for **150.71 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 476S** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 TOPAZ ELECTRIC 475S 1-1/2" STRAIGHT LIQUID TIGHT CONN MAL for **91.44 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/27/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 475S** • Pandemic Related Purchase **No** • Industry Code **Z987**

Total **10,415.67** USD

Approvers

Business Spend Management

To get immediate updates via SMS or change notification preferences, go here and adjust your settings

VEOLIA

Groves, David H <david.groves@veolia.com>

Fwd: Thank you for ordering from Tractor Supply Company

1 message

David Groves <grovesdh@icloud.com> Mon, Aug 30, 2021 at 12:49 PM
To: David Groves <david.groves@veolia.com>

Sent from my iPad

Begin forwarded message:

From: Tractor Supply Company <NoReply@cs.tractorsupply.com>
Date: August 30, 2021 at 12:48:42 EDT
To: grovesdh@icloud.com
Subject: Thank you for ordering from Tractor Supply Company

TSC TRACTOR SUPPLY CO

Order Number: 1083633680
Order Date: August 30, 2021

Hello David,

We have received your order and wanted to pass along some important information about your purchase.

You may see your order details anytime online: Order Details

Ordered Item(s)

Truck Delivery

Delivery Address:
David Groves
125 H V Chandler Rd
Colbert, GA 30628-3722

Delivery Date:
September 7, 2021

Delivery Time:
10AM - 2PM

SKU# 1661008
12 FT W X 38 FT L X 12 FT H RV COVER

Quantity: 1
Price: $5,799.99
Subtotal: $5,799.99

Order Summary

Subtotal	$5,799.99
Delivery	$301.99
SalesTax	$406.00
Total	**$6,507.98**

Payment Details

Payment	Billing Address
MASTERCARD 8503	105 Crystal Creek Ct Hull, GA 30646

Neighbor's Club Details

Did you know Neighbor's Club Members earn rewards with purchases? Click here to learn more about Neighbor's Club and start earning today!

Order Reference Only - Store Use Only

Thanks for shopping at Tractor Supply Co. Everything you need for Life Out Here.
Questions or comments? Visit tractorsupply.com/customersolutions.

Download the Tractor Supply app for easier shopping wherever you are. Learn More

VEOLIA

Groves, David H <david.groves@veolia.com>

Invoice 1234 from Summerour Workers Company, LLC

1 message

Summerour Workers Company, LLC <quickbooks@notification.intuit.com> Sun, Aug 29, 2021 at 9:28 PM
Reply-To: swcompany15@gmail.com
To: david.groves@veolia.com
Cc: mary.munn@veolia.com

INVOICE 1234 DETAILS

Summerour Workers Company, LLC

DUE 09/28/2021

$2,000.00

Print or save

Powered by QuickBooks

Dear Veolia Madison,

We appreciate your business. Please find your invoice details here. Feel free to contact us if you have any questions. Have a great day!

Have a great day,
Summerour Workers Company, LLC

Bill to

Veolia Madison
125 HV Chandler Rd
Colbert, GA 30628
United States

Terms Net 30

Service $2,000.00

Grading, framing, pouring and finishing 10x10 concrete pad extension.

1 X $2,000.00

Balance due $2,000.00

SWC appreciates your business.

Print or save

Summerour Workers Company, LLC

P O Box 1313 Demorest, GA 30535 US

swcompany15@gmail.com

If you receive an email that seems fraudulent, please check with the business owner before paying.

Invoice_1234_from_Summerour_Workers_Company_LLC.pdf
44K

Summerour Workers Company, LLC

P O Box 1313
Demorest, GA 30535 US
swcompany15@gmail.com

INVOICE

BILL TO
Veolia Madison
125 HV Chandler Rd
Colbert, GA 30628
United States

INVOICE	1237
DATE	09/07/2021
TERMS	Net 30
DUE DATE	10/07/2021

SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
Service	Framing and pouring 12 x 22 concrete slab at pond area	1	2,900.00	2,900.00

SWC appreciates your business!

BALANCE DUE **$2,900.00**

Page 1 of 1

VEOLIA

Groves, David H <david.groves@veolia.com>

Purchase Approval Request for David Martin - Requisition #1167564

1 message

Coupa Approval Notifications <approvals@veolia.coupahost.com> Fri, Sep 10, 2021 at 8:23 AM
Reply-To: approvals+b6738b807be2d10296284ba88c96641a122fb3f7@veolia.coupahost.com
To: david.groves@veolia.com

VEOLIA Purchase Approval Request for David Martin - Requisition #1167564

Powered by coupa

Hi David,

Requisition #1167564 from David Martin is ready for your approval!

Submitted By David Martin

Total **1,670.26** USD

Items	**500'- TRAY CABLE 12/3-VNTC-W/G TRAY-12/3-VNTC-W/G** Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	525.00 USD
	2 MADISON LM-75 3/4" MALL COND BODY CVR Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	8.86 USD
	2 TOPAZ ELECTRIC T2M 3/4" RIGID MALL T Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	15.81 USD
	2 MADISON LFN-75 3/4" NEOPRENE GASKET Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	2.26 USD
	2 ACPCD75S 3/4" DRAIN Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	24.18 USD
	250 PIPE GALV075 3/4" GALVANIZED CONDUIT Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	850.00 USD
	3 ACPFSC75 1G 3/4" FD CAST DEVICE BOX 1IN/1OUT Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	56.25 USD
	1 P & S CS20AC1-W 20A 120/277VAC S WIRE COMM SP SW WHT Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	2.50 USD
	50 WI 3/4-WBA WI 3/4 EMT CONDUIT HANGER	23.15 USD

Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE

2 SIEMENS INDUS Q220 2P 20A 120/240V CB 31.98 USD

Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE

6 P & S 2097-W 20A 125V SELF-TEST GFCI WHT 110.94 USD

Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE

6 P & S CR20-W RECEP DUP 20A/125V SIDE WIRE WHT 11.34 USD

Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE

1 F4P CES10X34HTJ 0210-9750 10 X 3/4 HEX SELF DRILL 7.99 USD

Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE

Justification

Electrical Material for RO project.
Account Summary - Front of Budget Madison RO Project

Looks good - want to approve? Click the approve button below or simply reply to this email with the word **Approve**.

Something's wrong - need to reject? No worries, just click the reject button below or reply to this email with the word **Reject**.

Need more info? Click **View Req** and you'll be taken online to see everything.

View Req | Reject | Approve

More Detail

Submitted By	David Martin
Requisition #	1167564
Justification	Electrical Material for RO project. Account Summary - Front of Budget Madison RO Project
Attachments	Quotation_TOC_39028_(2).pdf (Internal)
Rebill / Refacturation	No
R12 PO Recreation	No
OWAM Plant	
WAM Requester	None
Source System / Systeme D'Origine	None
Source PO No. / No. De PO D'Origine	None
Buyer / Acheteur	
Supplier Order Number	None
Site ID	40628
CAPEX	No

Non-Compliant Purchase None

EAMWarehouse None

Ship To Address

125 HV CHANDLER RD.
COLBERT, GA 30628
United States
Location Code: 40628
Attn: David Martin

Billing

V548 - Veolia Energy Operating Services, LLC

51110100-H6102046-V548-ENR MADISON OPERATG

- Account: **51110100**
- CCNode: **H6102046 (H6102046)**
- CostCntr: **V548-ENR MADISON OPERATG (6102046141)**

Lines

500'- TRAY CABLE 12/3-VNTC-W/G TRAY-12/3-VNTC-W/G for **525.00 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TRAY CABLE 12/3-VNTC-W/G** • Pandemic Related Purchase **No** • Industry Code **Z987**

2 MADISON LM-75 3/4" MALL COND BODY CVR for **8.86 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LM-75** • Pandemic Related Purchase **No** • Industry Code **Z987**

2 TOPAZ ELECTRIC T2M 3/4" RIGID MALL T for **15.81 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC T2M** • Pandemic Related Purchase **No** • Industry Code **Z987**

2 MADISON LFN-75 3/4" NEOPRENE GASKET for **2.26 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LFN-75** • Pandemic Related Purchase **No** • Industry Code **Z987**

2 ACPCD75S 3/4" DRAIN for **24.18 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **ACPCD75S** • Pandemic Related Purchase **No** • Industry Code **Z987**

250 PIPE GALV075 3/4" GALVANIZED CONDUIT for **850.00 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **PIPE GALV075** • Pandemic Related Purchase **No** • Industry Code **Z987**

3 ACPFSC75 1G 3/4" FD CAST DEVICE BOX 1IN/1OUT for **56.25 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **ACPFSC75** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 P & S CS20AC1-W 20A 120/277VAC S WIRE COMM SP SW WHT for **2.50 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **P & S CS20AC1-W** • Pandemic Related Purchase **No** • Industry Code **Z987**

50 WI 3/4-WBA WI 3/4 EMT CONDUIT HANGER for **23.15 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **WI 3/4-WBA** • Pandemic Related Purchase **No** • Industry Code **Z987**

2 SIEMENS INDUS Q220 2P 20A 120/240V CB for **31.98 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **SIEMENS INDUS Q220** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 P & S 2097-W 20A 125V SELF-TEST GFCI WHT for **110.94 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **P & S 2097-W** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 P & S CR20-W RECEP DUP 20A/125V SIDE WIRE WHT for **11.34 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **P & S CR20-W** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 F4P CES10X34HTJ 0210-9750 10 X 3/4 HEX SELF DRILL for **7.99 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/10/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **F4P CES10X34HTJ** • Pandemic Related Purchase **No** • Industry Code **Z987**

Total **1,670.26** USD

Approvers

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Business Spend Management
To get immediate updates via SMS or change notification preferences, go here and adjust your settings

VEOLIA

Groves, David H <david.groves@veolia.com>

Reminder: Purchase Approval Request for David Martin - Requisition #1168064

1 message

Coupa Approval Notifications <approvals@veolia.coupahost.com> Sun, Sep 12, 2021 at 8:24 PM
Reply-To: approvals+6ef2f72a418cf995ab49bb812dfb2f9a8e494ea1@veolia.coupahost.com
To: david.groves@veolia.com

VEOLIA Reminder: Purchase Approval Request for David Martin - Requisition #1168064

Powered by coupa

Hi David,

Just a friendly reminder: Requisition #1168064 from David Martin is ready for your approval!

Submitted By	David Martin	
Total	**253.77** USD	
Items	**6 EA. - TOPAZ ELECTRIC T2M 3/4" RIGID MALL T** Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	47.43 USD
	6 EA. - MADISON LFN-75 3/4" NEOPRENE GASKET Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	4.98 USD
	6 EA. - MADISON LM-75 3/4" MALL COND BODY CV Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	29.73 USD
	12 EA. - TOPAZ ELECTRIC 62 3/4" RIGID 90D ELBOW GALV STL Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	66.10 USD
	18 EA. - TOPAZ ELECTRIC 52 3/4" RGD COUPLING GALV Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	32.99 USD
	6 EA. - ACPCD75S 3/4" DRAIN Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	72.54 USD
Justification	Electrical items needed for RO Project. Account Summary - Front of Budget Madison RO Project	

Looks good - want to approve?
Click the approve button below or simply reply to this email with the word **Approve**.

Something's wrong - need to reject?
No worries, just click the reject button below or reply to this email with the word **Reject**.

Need more info?
Click **View Req** and you'll be taken online to see everything.

View Req Reject Approve

More Detail

Submitted By	David Martin
Requisition #	1168064
Justification	Electrical items needed for RO Project. Account Summary - Front of Budget Madison RO Project
Attachments	Quotation_TOC_39035_(1).pdf (Internal)
Rebill / Refacturation	No
R12 PO Recreation	No
OWAM Plant	
WAM Requester	None
Source System / Systeme D'Origine	None
Source PO No. / No. De PO D'Origine	None
Buyer / Acheteur	
Supplier Order Number	None
Site ID	40628
CAPEX	No
Non-Compliant Purchase	None
EAMWarehouse	None

Ship To Address

125 HV CHANDLER RD.
COLBERT, GA 30628
United States
Location Code: 40628
Attn: David Martin

Billing

V548 - Veolia Energy Operating Services, LLC

51110100-H6102046-V548-ENR MADISON OPERATG

- Account: **51110100**
- CCNode: **H6102046 (H6102046)**
- CostCntr: **V548-ENR MADISON OPERATG (6102046141)**

Lines

6 EA. - TOPAZ ELECTRIC T2M 3/4" RIGID MALL T for **47.43 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/13/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC T2M** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 EA. - MADISON LFN-75 3/4" NEOPRENE GASKET for **4.98 USD**

Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/13/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LFN-75** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 EA. - MADISON LM-75 3/4" MALL COND BODY CV for **29.73 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/13/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **MADISON LM-75** • Pandemic Related Purchase **No** • Industry Code **Z987**

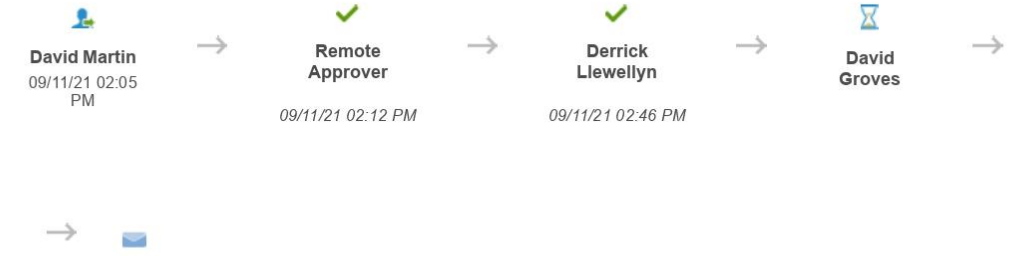
12 EA. - TOPAZ ELECTRIC 62 3/4" RIGID 90D ELBOW GALV STL for **66.10 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/13/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 62** • Pandemic Related Purchase **No** • Industry Code **Z987**

18 EA. - TOPAZ ELECTRIC 52 3/4" RGD COUPLING GALV for **32.99 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/13/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 52** • Pandemic Related Purchase **No** • Industry Code **Z987**

6 EA. - ACPCD75S 3/4" DRAIN for **72.54 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **09/13/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **ACPCD75S** • Pandemic Related Purchase **No** • Industry Code **Z987**

Total **253.77** USD

Approvers



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VEOLIA

Groves, David H <david.groves@veolia.com>

Purchase Approval Request for David Martin - Requisition #1161613

1 message

Coupa Approval Notifications <approvals@veolia.coupahost.com> Mon, Aug 30, 2021 at 9:46 AM
Reply-To: approvals+80ce9a60d813b21c32f777f4e613f0ec0c56e614@veolia.coupahost.com
To: david.groves@veolia.com

VEOLIA Purchase Approval Request for David Martin - Requisition #1161613

Powered by coupa

Hi David,

Requisition #1161613 from David Martin is ready for your approval!

Submitted By	David Martin	
Total	**284.06** USD	
Items	**6 EDISON ECSR100 100A 600V RK5 TD FUSE** Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	159.54 USD
	1 GALVAN 5/8X8GALV 5/8 X 8 GALVANIZED GROUND ROD Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	10.02 USD
	4 TOPAZ ELECTRIC 236S 2" 45 DEG LT STL CONN Supplier CITY ELECTRIC SUPPLY CO EASTANOLLE	114.50 USD
Justification	Additional electrical supplies for Madison RO Project. Account Summary - Front of Budget Madison RO Project	

Looks good - want to approve?
Click the approve button below or simply reply to this email with the word **Approve**.

Something's wrong - need to reject?
No worries, just click the reject button below or reply to this email with the word **Reject**.

Need more info?
Click **View Req** and you'll be taken online to see everything.

View Req | Reject | Approve

More Detail

Submitted By David Martin
Requisition # 1161613

Justification Additional electrical supplies for Madison RO Project.
Account Summary - Front of Budget Madison RO Project

Attachments Quotation_TOC_38940_(1).pdf (Internal)

Rebill / Refacturation No

R12 PO Recreation No

OWAM Plant

WAM Requester None

Source System / Systeme D'Origine None

Source PO No. / No. De PO D'Origine None

Buyer / Acheteur

Supplier Order Number None

Site ID 40628

CAPEX No

Non-Compliant Purchase None

Ship To Address

125 HV CHANDLER RD.
COLBERT, GA 30628
United States
Location Code: 40628
Attn: David Martin

Billing

V548 - Veolia Energy Operating Services, LLC

51110100-H6102046-V548-ENR MADISON OPERATG

- Account: **51110100**
- CCNode: **H6102046 (H6102046)**
- CostCntr: **V548-ENR MADISON OPERATG (6102046141)**

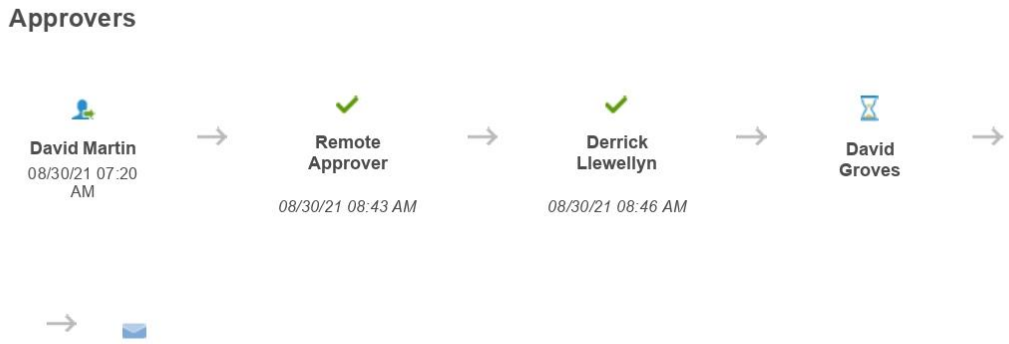
Lines

6 EDISON ECSR100 100A 600V RK5 TD FUSE for **159.54 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/30/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **EDISON ECSR100** • Pandemic Related Purchase **No** • Industry Code **Z987**

1 GALVAN 5/8X8GALV 5/8 X 8 GALVANIZED GROUND ROD for **10.02 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/30/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **GALVAN 5/8X8GALV** • Pandemic Related Purchase **No** • Industry Code **Z987**

4 TOPAZ ELECTRIC 236S 2" 45 DEG LT STL CONN for **114.50 USD**
Supplier **CITY ELECTRIC SUPPLY CO EASTANOLLE** • Need By **08/30/21** • Commodity **01600400 - MEDIUM AND HIGH VOLTAGE ELECTRICAL HARDWARE (TRANSFORMER, ETC.) / MATERIEL ELECTRIQUE MOYENNE ET HAUTE TENSION (TRANSFORMATEUR)** • Payment Terms **Z063** • Account **51110100-H6102046-6102046141** • Part Number **TOPAZ ELECTRIC 236S** • Pandemic Related Purchase **No** • Industry Code **Z987**

Total **284.06** USD



coupa

Business Spend Management

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Zee Company
412 Georgia Ave Ste 300
Chattanooga TN 37403-1853 US
(423)265-7090

QUOTE

Quote Number: QTE016238
Quote Date: 08/25/2021
Salesperson: 7230
Customer: GRP-COG-WTR
Customer PO:
Expiration Date:

Sold To	Ship To
VEOLIA MADISON BIOMASS - COLBERT ATTN: Ap - Site Id 40628 125 S 84th St Ste 175 Milwaukee, WI 53214-1499	VEOLIA MADISON BIOMASS POWER PLANT ATTN: Billy Hines 125 H V Chandler Rd Colbert, GA 30628-3722

Item		Quantity	UOM	Unit Price	Amount
1	CH52024-4K COMPLT HEAD ASSY KIT 80A60 3PC	3	Piece	804.00	2,412.00

Net Order:	**2,412.00**
Freight Charges	**0.00**
Fuel Surcharge	**0.00**
Sales Tax	**168.84**
Balance USD	**2,580.84**

Please note that freight charges are subject to change and may be added to this order during shipping.

UNLESS OTHERWISE SPECIFIED, ALL QUOTES EXPIRE IN 30 DAYS.

Page 1 of 1

Attachment B. Currently Available Properties

← Search

← Search **Overview** Property Details Sale & Tax History Schools

0 Dogwood Dr, Nicholson, GA 30565

$580,000
Est. $2,301/mo **Get a custom quote**

— Beds

— Baths

40.00 Acres (Lot)

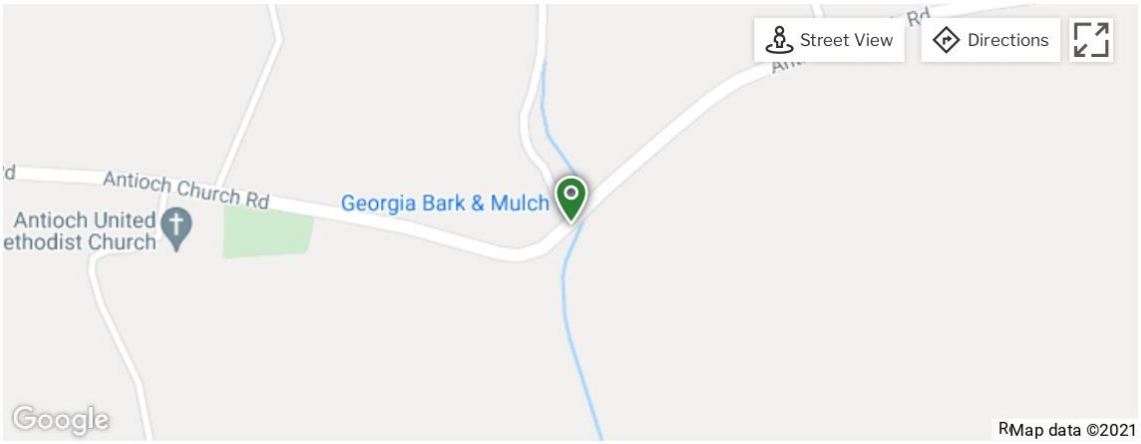
Offered for sale is 40 acres that will be divided from the original plat. This land offers a great opportunity that is located right off of Highway 441 and is close to I-85 and to Athens. Over 1900 feet of road frontage would all for future division of the property. Property is in conservation.
Listed by Joseph Eterno · Keller Williams Realty Atlanta Partners
Redfin last checked: over 7 days ago. Source: FMLS IDX · Also listed on GAMLS

Home Facts

Status	Active
Time on Redfin	132 days
Property Type	Vacant Land
Lot Size	40 Acres
MLS#	6928156

Price Insights

List Price	$580,000
Est. Mo. Payment	$2,301
Buyer's Brokerage Commission	3.0%



Ask Redfin Partner Agent Janice a Question

Janice Slaven

Nicholson Redfin Partner Agent

Berkshire Hathaway Home Services GA Prop

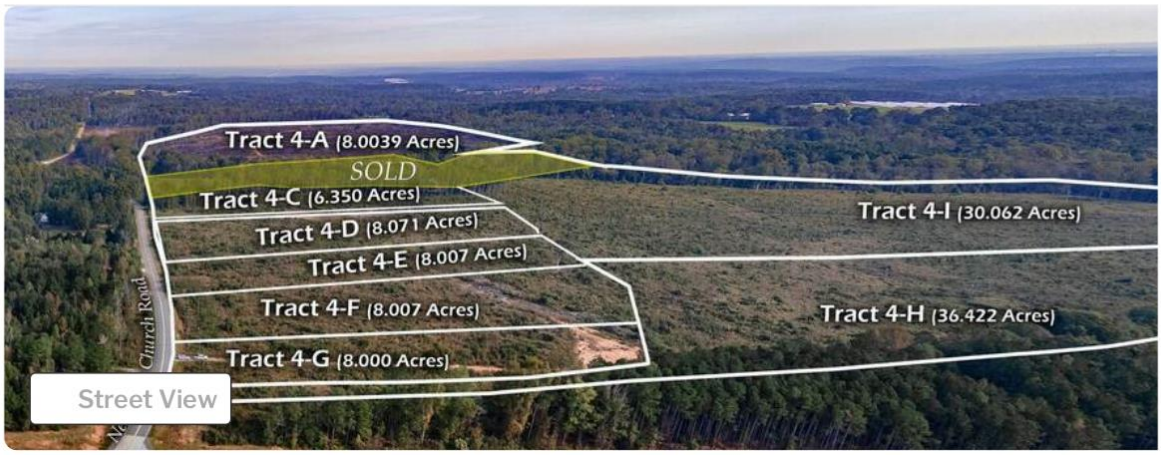
Responds in about **1 hour**

Write a message...

I'd like more home details. | I'm interested in buying. | Is this home still available?

← Search

← Search Overview Property Details Sale & Tax History Schools



0 New Hope Church Rd Unit TRACT 7, Comer, GA 30629

$291,000
Est. $1,428/mo **Get a custom quote**

—
Beds

—
Baths

36.42
Acres (Lot)

Buy + Sell = Save

When you buy & sell with Redfin, we cut our listing fee to 1%—half what others charge. Get started

Build your dream home, mini-farm or developers looking for a great tract of mostly clear cut land to build new homes for the fast growing Madison County. Clear cut in 2019. Tract can be purchased separately or in combination with Tracts 1-8

Listed by Amy Bray · Coldwell Banker Upchurch Rlty.
Redfin last checked: 4 minutes ago | Last updated Nov 10, 2021 · Source: GAMLS

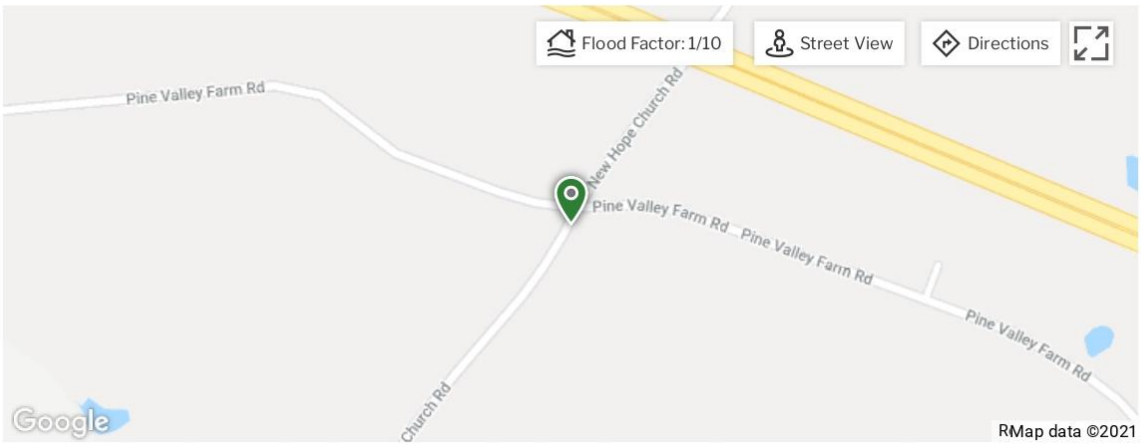
Home Facts

Status	Active
Time on Redfin	57 days
Property Type	Vacant Land

Community	Comer
Lot Size	36.42 Acres
MLS#	9072071

Price Insights

List Price	$291,000
Est. Mo. Payment	$1,428
Redfin Estimate	$272,946



— min · Add a Commute

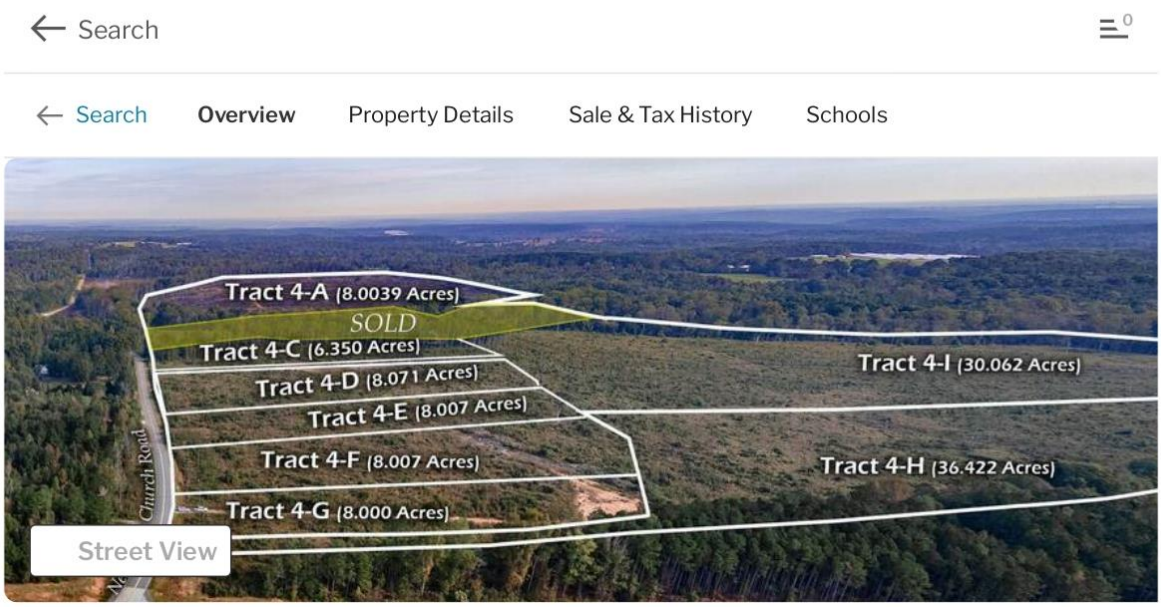
Payment Calculator

$1,428 per month

Find a Lender

Principal and Interest	$974
Property Taxes	$313
Homeowners' Insurance	$141

Down Payment	Home Price	Loan Details
20%	$291,000	30 yr



0 New Hope Church Rd Unit TRACT 8, Comer, GA 30629

$241,000
Est. $1,182/mo **Get a custom quote**

— Beds

— Baths

30.06 Acres (Lot)

Build your dream home, mini-farm or developers looking for a great tract of mostly clear cut land to build new homes for the fast growing Madison County. Clear cut in 2019. Tract can be purchased separately or in combination with Tracts 1-8

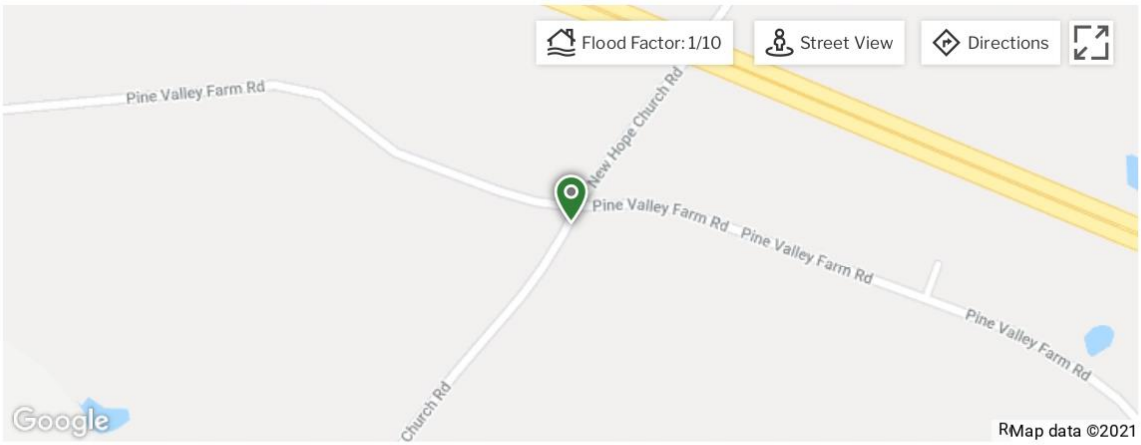
Listed by Amy Bray · Coldwell Banker Upchurch Rlty.
Redfin last checked: 2 minutes ago | Last updated Nov 10, 2021 · Source: GAMLS

Home Facts

Status	Active
Time on Redfin	57 days
Property Type	Vacant Land
Community	Comer
Lot Size	30.06 Acres
MLS#	9072076

Price Insights

List Price	$241,000
Est. Mo. Payment	$1,182
Redfin Estimate	$228,612



Payment Calculator

$1,182 per month

Find a Lender

Principal and Interest	$807
Property Taxes	$259
Homeowners' Insurance	$116

Down Payment	Home Price	Loan Details
20%	$241,000	30 yr

Attachment C. City of Elberton Trucking and Disposal Invoices

GEORGIA RENEWABLE POWER
VEOLIA (INDUSTRIAL WASTE)

DATES	RATE PER 1000 GALLONS	Account #
12/6/2021 TO 12/10/2021	$ 50.00	120-0040-00

DATE	GALLONS	SOLD
12/6/2021	40200	$ 2,010.00
12/7/2021	33500	$ 1,675.00
12/8/2021	33500	$ 1,675.00
12/9/2021	33500	$ 1,675.00
12/10/2021	26800	$ 1,340.00

TOTAL	167500	$ 8,375.00
AVERAGE	33500	$ 1,675.00
MAXIMUM	40200	$ 2,010.00
MINIMUM	26800	$ 1,340.00

Billed Nut 12/13/21 RR

Bulls Bay Group
1152 Dawn View Ter
Mount Pleasant, SC 29464 US
drew.drury@bullsbaygroup.com
www.bullsbaygroup.com

BULLS BAY GROUP LLC

INVOICE

BILL TO
Veolia North America
125 H V Chandler Road
Colbert, GA 30628

INVOICE	1101
DATE	05/26/2021
TERMS	Net 60
DUE DATE	07/25/2021

SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
Services	Water disposal at Aquaterra May 15 2021	1	450.00	450.00
Services	Water hauling May 17-21 2021	24	375.00	9,000.00

SITE ID 40628

BALANCE DUE **$9,450.00**

Pay invoice

Page 1 of 1

Attachment D. Aqua Terra Trucking and Disposal Invoices

Aqua-Terra Recycling & Treatment

P.O. Box 98
Oxford, GA 30054

Due Date	Date	Invoice #
1/23/2022	11/24/2021	30584

Bill To

Veolia North America
125 S. 84th Street
Milwaukee, WI 53214

Balance Due	**$3,850.60**

Aqua-Terra Recycling & Treatment

PLEASE DETACH AND RETURN TOP PORTION WITH YOUR PAYMENT.

P.O. Box 98
Oxford, GA 30054

P.O. No.	Terms	Invoice #
	Net 60	30584

Qty	Description	Rate	Amount
7.25	5000/gal. Vacuum Truck w/Operator - Adam Morgan	145.00	1,051.25
5,000	Non-Hazardous Waste Water - Manifest No. 17519	0.08	400.00
5,000	Non-Hazardous Waste Water - Manifest No. 17520	0.08	400.00
7.25	5000/gal. Vacuum Truck w/Operator - Adam Morgan	145.00	1,051.25
5,000	Non-Hazardous Waste Water - Manifest No.	0.08	400.00
5,000	Non-Hazardous Waste Water - Manifest No.	0.08	400.00
3,702.5	Credit Card Processing Fee	0.04	148.10
	Site Location: Veolia Madison 125 H V Chandler Road Colbert, GA 30628 Site ID: 40628		

We appreciate your business!
There will be a $36.00 charge for all returned checks. 10% interest will be assessed on all unpaid balances after 90 days. A fee of 4% will be added to credit card payments. For billing inquiries: 678-625-4025.

Total	$3,850.60
Payments/Credits	$0.00
Balance Due	$3,850.60

Bulls Bay Group
1152 Dawn View Ter
Mount Pleasant, SC 29464 US
drew.drury@bullsbaygroup.com
www.bullsbaygroup.com

BBG BULLS BAY GROUP LLC

INVOICE

BILL TO
Veolia North America
125 H V Chandler Road
Colbert, GA 30628

INVOICE	1101
DATE	05/26/2021
TERMS	Net 60
DUE DATE	07/25/2021

SERVICE	DESCRIPTION	QTY	RATE	AMOUNT
Services	Water disposal at Aquaterra May 15 2021	1	450.00	450.00
Services	Water hauling May 17-21 2021	24	375.00	9,000.00

SITE ID 40628

BALANCE DUE **$9,450.00**

Pay invoice

Page 1 of 1

APPENDIX E

ROBUST REDHORSE TECHNICAL ANALYSIS

Confidential Technical Memo

Date:	July 8, 2021
To:	David Groves
From:	Shari Weech, Ph.D., Mijanur Chowdhury, Ph.D., Lisa Bowron, M.Sc. Minnow Environmental Inc.
Cc:	Josh Haar, PE, Trinity Consultants, Inc.
RE:	**Review of Potential Impacts to Robust Redhorse from Effluent to be Discharged from the GRP Madison Renewable Energy Facility, LLC**

Introduction

Minnow Environmental Inc. (Minnow) is pleased to provide Veolia Energy Operating Services (Veolia) and Georgia Renewable Power (GRP) with a review of potential effects of the proposed effluent discharge from the GRP Madison Renewable Energy Facility (located in Madison County, Georgia) on the robust redhorse (*Moxostoma robustum*), a protected species of sucker that is currently listed as endangered by the Georgia Department of Natural Resources (DNR).

The proposed effluent will be discharged from two outfall points (Outfall 001 and Outfall 002) into two separate unnamed creeks (Figure 1). From there, the effluent will flow into Beaverdam Creek (making up approximately 98% of the creek's flow at times), then into the South Fork Broad River, and finally into the Broad River (Figure 1). These watercourses are all located within the Savannah River Basin. Outfall 001 includes stormwater which comes from a parking lot (Haar 2021, pers. comm.). Outfall 002 is composed of the facility process water including boiler blowdown, boiler feedwater, boiler area drains, STG sump area drains, reverse osmosis reject water, cooling tower blowdown, and stormwater. Discharge limits associated with water quality parameters of concern are provided in the Facility's Draft National Pollutant Discharge Elimination System permit (NPDES Permit no. GA0050283; Table 1).

Robust Redhorse

The robust redhorse is a large-bodied sucker which can weigh up to 8 kg, have a total length greater than 700 mm, and live up to 25 years. They feed on benthic macroinvertebrates

(particularly small crustaceans and mollusks), as well as algae and detritus. The species was original described by Edward Cope in 1870 but was more recently rediscovered in 1991 when five individuals were collected in the Oconee River, Georgia.

Robust redhorse prefer deep pools with woody debris and overhanging banks when wintering. Many of the robust redhorse in the Savannah River Basin overwinter in Clark Hill Reservoir (Freeman et al. 2002, Straight and Freeman 2013). Fish travel from Clark Hill Reservoir for spawning and prefer rocky shoals with coarse gravel, moderate to swift currents (0.26 to 0.67 cm/sec), and water depths of 0.29 to 1.4 m (Freeman and Freeman 2001, RRCC 2006). Spawning occurs in the spring (late April through June) when water temperatures range from 18 to 25 °C (Freeman and Freeman 2001, RRCC 2006). Fine sediment in the coarse gravel shoals has been found to be detrimental to eggs and larval robust redhorse, either through burial of habitat or carrying contaminants (Jennings et al 2010).

Habitat Availability

Wild populations of robust redhorse have been found in three river systems in Georgia, Oconee River, Ocmulgee River, and the Savannah River Basin. The largest population has been found in the Oconee River (Freeman and Freeman 2001). Focus on the impacts to younger age classes (egg development, larval stages, etc.) would be important for determining health and survival of the populations since populations are skewed to adult age classes, even with some evidence of juvenile recruitment (Freeman and Freeman 2001).

The known wild population of the robust redhorse in the Savannah River Basin is found in the Fall Line Zone and below Augusta, Georgia and North Augusta, South Carolina (Straight and Freeman 2003). Robust redhorse were introduced into the Broad River from 1995 to 1998 (Freeman et al. 2002). Introductions occurred above the Watson Mill dam on the South Fork Broad River (1995), at the Watson Mill State Park (1995 and 1996), on the Middle Fork Broad River (1997), on the North Fork Broad River (1995, 1997, 1998), on the Hudson River (1996 to 1998), and on Hannah Creek (1997, 1998; Freeman et al. 2002). While stocking of robust redhorse did occur above the Watson Mill dam in the South Fork Broad River, recapture efforts in 1997 were unsuccessful (i.e., no robust redhorse were found; Freeman et al. 2002). This indicates that a population of robust redhorse was unable to establish upstream of the dam. Since then, no further effort to stock robust redhorse upstream of the Watson Mill dam has been documented. The Watson Mill dam is considered a barrier to upstream migration of robust redhorse (Fenwick 2021, pers. comm.), thus the nearest the robust redhorse can be relative to the Facility's proposed effluent discharge is 10.7 miles downstream. The original introduced fish were tagged and re-captured downstream in the Clark Hill Reservoir during overwintering (Freeman et al. 2002). Tagged fish have shown that robust redhorse will

travel upstream from Clark Hill Reservoir to known spawning areas on the Broad River and the North Fork Broad River (Straight and Freeman 2013).

Impact of Effluent Discharge on the Receiving Water Quality

The dilution of the Facility's effluent in the immediate receiving water of the South Fork Broad River was calculated based on the steady-state mass-balance method for four different possible scenarios in terms of expected effluent dilution in the receiving waters (Table 2):

1) an average-case, which would occur in the case of average effluent discharge rate (205,000 gallons per day) from Outfall 002 in average South Fork Broad River flow;
2) a typical-case, which would occur in the case of maximum effluent discharge rate (650,000 gallons per day) from Outfall 002 in average South Fork Broad River flow;
3) a worst-case, which would occur in the case of average effluent discharge rate from Outfall 002 in 7Q10 low flow of the South Fork Broad River; and
4) a scenario based on the representative effluent flow (190,000 gallon per day from Outfall 002) that was used by the Environmental Protection Division (EPD) of the Georgia DNR in calculating Water Quality-Based Effluent Limits (WQBEL) in the Facility's Draft NPDES permit and 7Q10 low flow of South Fork Broad River.

The average and 7Q10 low flows of the receiving South Fork Broad River were obtained from the United States Geological Survey (USGS) stream statistics data (Attachment A). As for the effluent discharge rate, the representative discharge rate of Outfall 002 from the Permit was used. Notably, the discharge from Outfall 001 consists of stormwater from a pond which is also spring-fed, and when present in conjunction with the Outfall 002 discharge, would dilute the Outfall 002 effluent in Beaverdam Creek before flowing into the South Fork Broad River. As such, the calculated dilution, which ranges from 0.3% for the average-case to 36% for the worst-case scenarios, without considering the dilution effect of the Outfall 001 discharge is a conservative estimate (Table 2).

The inherent assumption of the mass-balance method is that instantaneous mixing occurs between the discharged effluent and the receiving water, while in practice, the effluent creates a plume and is progressively mixed in a zone of the receiving water, which would extend from the confluence of Beaverdam Creek with the South Fork Broad River in a downstream direction. To have a rough understanding of the size of the mixing zone, the effluent mixing behavior for the typical-case scenario with representative model input parameters was simulated using CORMIX™ (Cornell Mixing Zone Expert System), a widely used mixing zone hydrodynamic model approved by the United States Environmental Protection Agency (Doneker and Jirka 2007).

The modelling suggested that the edge of the 36% effluent plume would occur within a short distance (less than 20 m) from the confluence of Beaverdam Creek with the South Fork Broad River. As such, the assumption of instantaneous mixing was deemed applicable for this discharge, and the 36% dilution associated with the worst-case scenario was used to assess the expected water quality impacts of the discharge in the South Fork Broad River, as summarized below.

The expected concentrations of water quality parameters that have discharge or reporting limits in the Draft NPDES permit were estimated in the immediate receiving waters of the South Fork Broad River using both daily maximum and daily average discharge concentrations associated with Outfall 002. The expected effluent dilution associated with the worst-case scenario (i.e., 36%, Table 2) and representative background water quality data[1] were used in the calculations (Tables 3 and 4; Attachment B). All parameters are expected to meet receiving water quality criteria immediately upon mixing with the South Fork Broad River under these scenarios.

The expected temperature due to the Outfall 002 discharge in the immediate receiving waters of South Fork Broad River was also estimated for both the Summer and Winter periods based on the steady-state balance of heat between the discharge and receiving waters. The estimated values suggest that the immediate receiving water temperature of the South Fork Broad River would be below the receiving water criteria for both seasons.

Toxicity Review

EPD has performed an evaluation of the Draft Permit application and supporting documents and performed a reasonable potential analysis on the potential pollutants of concern in accordance with Rule 391-3-6.06(4)(d)(5) to ensure that the Draft Permit is properly protective of human health and the environment and set limits based on Federal and State Rules and guidance documents. EPD's document entitled *Strategy for Addressing Phosphorous in NPDES Permitting* (Georgia DNR 2011) describes Georgia's strategy for controlling phosphorous in receiving waters. Based on the Rules and this strategy, EPD set Permit effluent limits for phosphorous. Since the Draft Permit limits for phosphorous were developed based on this strategy, there is no reason to assess phosphorous in this document for potential toxic effects or effects related to eutrophication.

[1] Water samples SB-1 and SB-2 were both collected from the middle of the South Fork Broad River near the Comer Road crossing on April 12, 2021 (see Figure 1 for sampling location). While this location is downstream of Beaverdam Creek, the Facility was not discharging at the time of sampling. Therefore, results are considered representative of the South Fork Broad River upstream of Beaverdam Creek.

In this assessment, a variety of water quality parameters have been highlighted as being of potential concern in effluent from the facility, based on reporting and/or discharge limits being set in the Draft Permit (Table 1). These parameters include pH, oil and grease, and total copper and zinc. Total nickel was also identified as an analyte of concern at Outfall 001, and total suspended solids (TSS), temperature, chloroform, and cyanide were identified for Outfall 002 (Table 1).

Copper concentrations in unpolluted waters are typically lower than 1 µg/L (Moore and Ramamoorthy 2012). Speciation of copper is linked to its ability to elicit toxicity, with the free ionic form being most toxic compared to complexed forms. Increased aqueous alkalinity, hardness, and dissolved organic carbon have all been shown to mitigate copper toxicity through reduction in bioavailability (USEPA 2007). Copper is also an essential micronutrient involved in enzymatic and metabolic activity, as well as oxygen transport (e.g., as part of hemocyanin; Malhotra et al. 2020). Within fish, most copper is found in the gills, kidney, brain, liver, and muscle, and is important for maintaining red blood cells, nerve cells, and the immune system (Malhotra et al. 2020). Copper toxicity to fish has been studied extensively, with adverse effects related to iono- and osmoregulation, growth, reproduction, and behavior occurring at relatively low concentrations (i.e., 10-20 µg/L; Kennedy et al. 2012). In the aquatic environment, copper may ultimately be assimilated by aquatic organisms, or accumulated in sediment (Singh et al. 2017). Because the importance of ligands in determining the bioavailability (and ultimately, toxicity) of copper, water quality standards for copper are often determined on a site-specific basis using the biotic ligand model (USEPA 2007). Hardness-based standards, such as those used in Georgia, are also common (Table 1).

Nickel is common throughout aquatic ecosystems, with the free divalent cationic form being the most toxic (Pyle and Couture 2011). In the aquatic environment, most nickel is usually bound to dissolved organic matter or adsorbed to iron or manganese oxyhydroxides, making it less bioavailable. While nickel is essential to plants and terrestrial animals, there is little evidence of its essentiality to aquatic animals. Nickel toxicity is influenced by water pH, hardness, and presence of TSS, and affects different species of fish and life stages to varying degrees (USEPA 1986; Pyle and Couture 2011). Fish tend to take up nickel via the gills or olfactory epithelium or through ingestion during dietary exposure (Pyle and Couture 2011). Nickel preferentially accumulates in the kidneys where it can cause lesions in renal tubules and oxidative damage, but acute toxicity is typically related to branchial lesions on the gills that result in impaired respiratory function (Pyle and Couture 2011). The concentration of nickel required to elicit acute toxicity (LC50) is substantially higher than for other metals like copper, ranging from 4 to 44 mg/L in softer to harder waters (Birge and Black 1980), and thus nickel is generally of lower concern compared to other metals.

Zinc concentrations in uncontaminated freshwater are usually less than or equal to 10 µg/L (USEPA 1980a). Complexes of zinc with the common ligands of surface waters are soluble in neutral and acidic solutions, so it is readily transported and considered one of the most mobile of the heavy metals (USEPA 1980a). Zinc is an essential micronutrient, being involved in nucleic acid synthesis and occurring in many enzymes (CCME 1999). Decreasing alkalinity, pH, and the presence of other ligands in water ultimately favors the free metal ion (CCME 1999), which is the primary form responsible for aquatic toxicity (Heijerick et al. 2002, De Schamphelaere et al. 2005). At extremely high concentrations, zinc causes gross morphological alterations to the teleost gill and fish usually die within a few hours due to tissue hypoxia from impaired gas exchange (Skidmore and Tovell 1972). At lower concentrations that more realistically reflect contaminated environments, zinc disrupts calcium uptake by chloride cells in the gills (Spry and Wood 1985). Survival of fish is equally or more sensitive than other endpoints in chronic exposures to zinc (De Schamphelaere and Janssen 2004). Swim-up alevins or young juveniles appear to be more sensitive to zinc than either younger or older life stages (Buhl and Hamilton 1990). Hardness is probably the strongest single water quality factor influencing zinc toxicity to aquatic biota, with the calcium component of hardness being particularly effective in protecting fish from zinc toxicity (Santore et al. 2002). Most of the zinc introduced to aquatic environments is eventually partitioned into sediment by sorption onto hydrous iron and manganese oxides, clay minerals, and organic materials (USEPA 1980a).

Chloroform is ubiquitous in the environment, and often found at trace levels in the tissues of organisms; however, it is not known to bioaccumulate, and concentrations typically found in tissue and water do not pose risks to fish even in their most sensitive life-stages (McCulloch 2003). Because of its poor solubility and relatively high vapour pressure, chloroform naturally tends to partition to air when allowed to equilibrate with the aquatic environment (Ballschmiter 1992). Background concentrations of chloroform ranging from 0.004 µg/L to 3.8 µg/L have been measured in rivers and lakes throughout Europe and North America (McCulloch 2003). The International Programme on Chemical Safety (IPCS 1994) concluded that the levels of chloroform typically found in surface water would not present a risk to aquatic organisms. Acute and chronic toxicity to freshwater aquatic organisms was documented at concentrations as low as 28,900 µg/L and 1,240 µg/L, respectively (USEPA 1980b). More recently, the USEPA's approved water quality standard for chloroform (adopted by Georgia State) was set at 470 µg/L. Toxicological studies completed using algae, aquatic invertebrates, and fish resulted in a predicted no-effect concentration of 72 µg/L, which included a 50-fold safety factor (Zok et al. 1998).

Cyanide may be found in many forms in the aquatic environment, including free cyanide (the primary toxic form), metallocyanide complexes, and synthetic organo forms (Eisler 1991;

USEPA 1984). Cyanide is a potent asphyxiant but can be rapidly detoxified. Among aquatic organisms, fish tend to be the most sensitive to cyanide toxicity. Adverse behavioral effects have been noted at concentrations of free cyanide ranging from 5.0 to 7.2 µg/L, while lethality was observed between 20 and 76 µg/L (Eisler 1991). Toxicity of cyanide can be modified by water pH, temperature, and dissolved oxygen content. Cyanide tends not to persist or accumulate in surface waters; rather it is lost to complexation/sedimentation or volatilization, or broken down via microbial degradation (Eisler 1991). Concentrations of 3 to 5 µg/L free cyanide are generally considered protective of aquatic life (Eisler 1991), which is in line with the Georgia water quality standard of 5.2 µg/L (USEPA 1984; Table 1).

Total suspended solids or suspended sediments are not typically lethal to fish because of the fish's ability to avoid or move out of areas experiencing turbidity events (Kjelland et al. 2015). However, TSS may cause sublethal stress by affecting fish in a variety of ways including general displacement; interference with social behaviors, migration patterns, foraging capabilities, and larval disbursement; reduced reproductive pairing success; physiological effects such as physical abrasion and clogging of gills; and alteration of food-web dynamics (through direct lethality to important dietary invertebrates, reduced dissolved oxygen and primary productivity, and increased benthic drift; Kjelland et al. 2015; Chapman et al. 2014). Different species of fish tend to have different levels of tolerance to suspended sediments, with those that have specialized feeding regimes tending to be more susceptible to effects compared to those that are more opportunistic or generalized (Kjelland et al. 2015). In most cases a substantial and sustained increase in suspended solids (> 1,000 mg/L) would be required to elicit direct mortality to fish (Kjelland et al. 2015).

Oil and grease is a broad term that can include but not limited to, fossil fuels, synthetic esters, vegetable oils, polyalkylene glycols, and other industrial lubricants. Synthetic esters, vegetable oils, and polyalkylene glycols are not considered toxic to fish as they have little potential to bioaccumulate and they biodegrade quickly (USEPA 2011). Fossil fuels or petroleum-based oils on the other hand can be persistent and have the potential to bioaccumulate (USEPA 2011). Discharge limits are set at levels where a visible sheen could occur. Toxicity would only be of concern for oil and grease that tends to persist in the environment and bioaccumulate.

Toxicity Assessment

Based on the water quality modelling completed using both the average scenario and the worst-case scenario (i.e., average effluent flows during 7Q10 receiving water flow), water quality within the South Fork Broad River (even within the immediate effluent mixing zone), would not be expected to cause adverse effects to robust redhorse. Water temperatures would remain well below 90 °F within the South Fork Broad River, with little evidence of change due to effluent

release from the Facility (i.e., the maximum permitted discharge temperature is 68.72 °F [see Tables 3 and 4], so it would not be possible for effluent to raise the temperature of the river beyond this point). The limits set for pH in the discharges from both Outfall 001 and 002 are equivalent to the Georgia State water quality standards, and thus are considered protective of aquatic health. Total suspended solids can cause habitat impairment due to the burial of spawning habitat by fine sediment. Since the robust redhorse population that potentially uses the South Fork Broad River is located a minimum of 10.7 miles downstream discharge (i.e., downstream of the of the Watson Mill dam; Fenwick 2021, pers. comm.), it is highly unlikely that any TSS events related to the discharge of effluent from the Facility would result in adverse effects. If release of suspended solids remains within permitted limits, there would be ample opportunity for solids to become diluted and settle out upstream of the Watson Mill dam prior to reaching habitat that may be used by the robust redhorse.

Summary

Based on the modeling scenarios conducted herein, the discharge associated with the GRP Madison Renewable Energy Facility is not expected to adversely affect robust redhorse within the South Fork Broad River, or areas located further downstream (i.e., Broad River and Clark Hill Reservoir).

References

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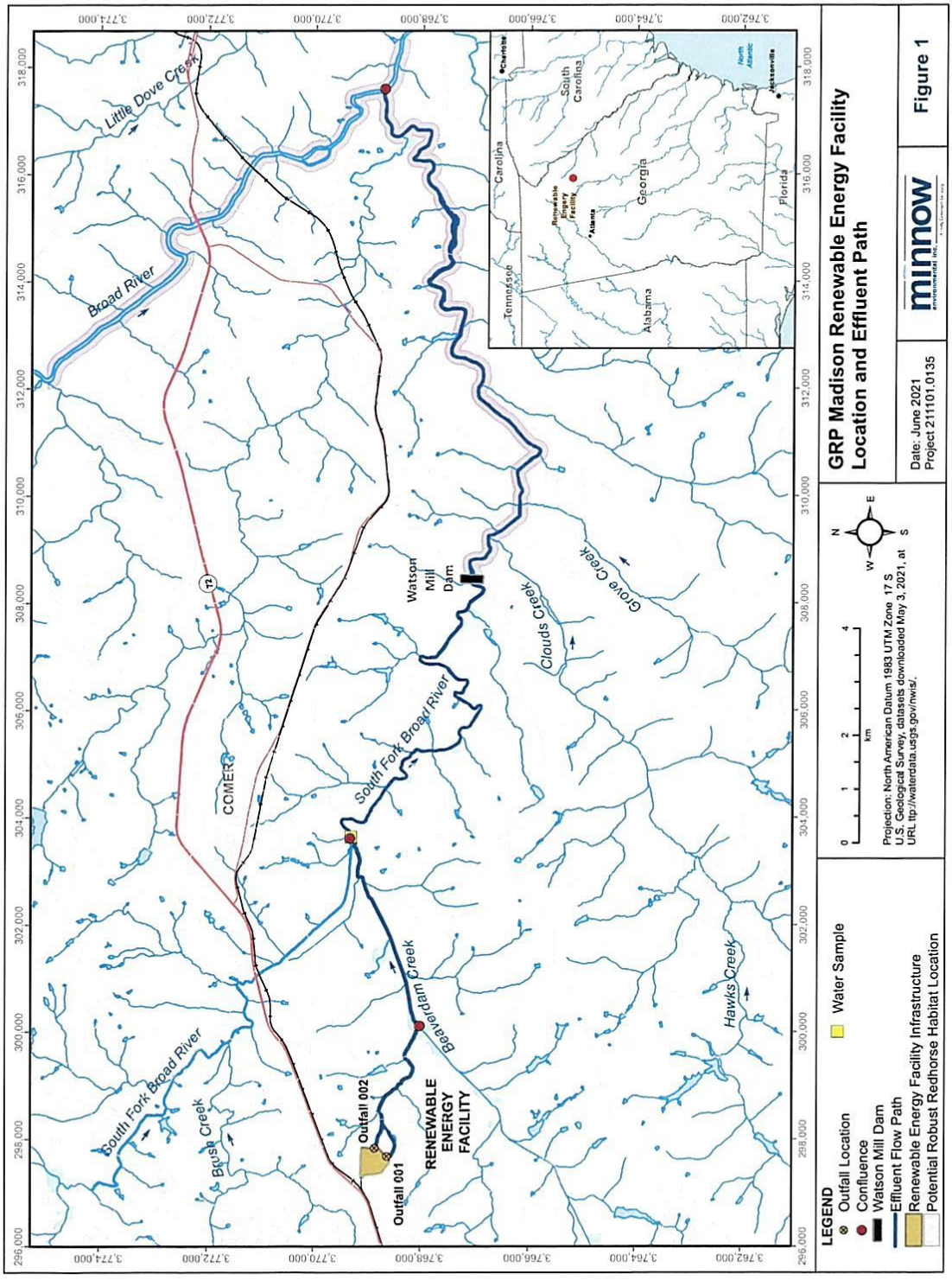
FIGURE


Little Dove Creek
Broad River
South Fork Broad River
Brush Creek
Outfall 002
Outfall 001
RENEWABLE ENERGY FACILITY
Beaverdam Creek
Watson Mill Dam
Clouds Creek
Grove Creek
Hawks Creek
COMER
72
Tennessee
Carolina
South Carolina
Georgia
Florida
Alabama
Renewable Energy Facility
Atlanta
Charlotte
Jacksonville
LEGEND
Outfall Location
Confluence
Watson Mill Dam
Effluent Flow Path
Renewable Energy Facility Infrastructure
Potential Robust Redhorse Habitat Location
Water Sample
Projection: North American Datum 1983 UTM Zone 17 S
U.S. Geological Survey, datasets downloaded May 3, 2021, at
URL ttp://waterdata.usgs.gov/nwis/.
GRP Madison Renewable Energy Facility
Location and Effluent Path
Date: June 2021
Project 211101.0135
minnow
Figure 1
Document Path: C:\Users\MLaPalme\Trinity Consultants, Inc\Veolia - 211101.0135 Rare Species Evaluation\07 GIS\Figure 1 GRP Madison Renewable Energy Facility.mxd

TABLES

Table 1: NPDES Permit Effluent Limits and Georgia State Water Quality Standards

Effluent Characteristics	Discharge Limits				Georgia State Water Quality Standards[a,b]	
	Outfall 001		Outfall 002			
	Daily Average (mg/L)	Daily Max (mg/L)	Daily Average (mg/L)	Daily Max (mg/L)	Chronic (mg/L)	Acute (mg/L)
pH	between 6.0 and 8.5[c]		between 6.0 and 8.5[c]		between 6.0 to 8.5[c]	
Total Suspended Solids	-	-	30	100	-	-
Oil and Grease	10	15	15	20	[d]	
Total Copper	Report	Report	0.007	0.009	0.0048	0.0067
Total Nickel	Report	Report	-	-	0.029	0.26
Total Zinc	Report	Report	0.114	0.114	0.064	0.064
Total Phosphorus	1.0	1.5	1.0	1.5	[e]	
Orthophosphate as P	Report	Report	Report	Report	[e]	
Chloroform	-	-	0.471	0.706	0.47[f]	-
Cyanide	-	-	0.005	0.008	0.0052[g]	0.022

Note: "-" = no data available.

[a] pH and temperature criteria are for recreational water use.

[b] Water quality standards are equivalent to USEPA standards.

[c] pH shall not be less than 6.0 or greater than 8.5.

[d] Waters free from oil and industrial waste in amounts sufficient to be unsightly or to unreasonably interfere with designated use of the water body.

[e] Georgia does not have water quality standards for total phosphorus or orthophosphate

[f] Should not exceed criteria indicated under annual average or higher stream flow conditions.

[g] Should not exceed criteria indicated under 7-day, 10-year minimum flow or higher stream flow conditions.

Table 2: Estimated Receiving Water Dilution Depending on Different Discharge and Receiving Water Flow Conditions

Scenarios	Representative Outfall 002 Discharge Rate (gallons/day)	South Fork Broad River Flow Rate[b] (gallons/day)	Effluent Dilution in the South Fork Broad River[e]	
			Effluent Percent[c]	Dilution Factor[d]
Average-case (average effluent discharge rate in average receiving water flow)	205,000	59,784,230	0.3%	293
Typical-case (maximum design effluent discharge rate in average receiving water flow)	650,000	59,784,230	1.1%	93.0
Worst-case (average effluent discharge rate in 7Q10 receiving water low flow)	205,000	374,863	35.4%	2.8
NPDES Permit Scenario[a]	190,000	374,863	33.6%	3.0

[a] This correspond to the representative effluent discharge rate of 190,000 gallon per day that was used for the Water Quality-based Effluent Limit (WQBEL) Calculation and the Reasonable Potential Analysis in the Permit.

[b] South Fork Broad River flow based on USGS stream flow statistics method for ungauged streams (see Attachment A).

[c] "Effluent Percent" = "Representative Outfall 002 Discharge Rate"/("Representative Outfall 002 Discharge Rate"+ "South Fork Broad River Flow Rate").

[d] Dilution Factor = 1/Effluent Percent.

[e] Effluent dilution downstream of the confluence point of Beaverdam Creek with the South Fork Broad River.

Table 3: Estimated Receiving Water Concentration and Temperature due to Daily Average Outfall 002 Discharge Concentration and Temperature Compared to Receiving Water Quality Standards[a]

Parameter	Receiver Criteria[b] (mg/L)	Background Concentration or Temperature[c] (mg/L)	Daily Average Effluent Discharge Concentration or Temperature[d] (mg/L)	Receiving Water Concentration or Temperature[e] (mg/L)
Total Copper	0.0048	0.001	0.007	0.003
Total Nickel	0.029	0.001	0.08	0.028
Total Zinc	0.064	0.001	0.114	0.042
Total Phosphorus	-	0.003	1.0	0.362
Cyanide	0.0052	0.004	0.005	0.004
Chloroform	0.47	0.0	0.47	0.17
Temperature (°F) - Summer	71.92	66.92	68.72	67.56
Temperature (°F) - Winter	67.96	62.96	68.72	65.00

[a] Total suspended solids (TSS) and oil/grease are not included in this table, as the mass-balance mixing model cannot account for the distribution of these substances in water.
[b] Receiving water criteria, either as Georgia State Water Quality Standard (Chronic) or water quality objectives (only for Total Nickel). Receiver criteria for temperature was assumed as 5°F above the representative background temperature.
c Background concentration as per a grab sample collected from the South Fork Broad River in April 2021. Concentrations at half of the Lower Reporting Limit (LRL) were used for the parameters (copper, nickel, zinc, phosphorus and cyanide) that were below the LRL in the grab sample, whereas chloroform concentration was assumed to be zero as it was not measured. For the representative background water temperature, Outfall 001 stormwater temperature, as per the Permit, was used.
[d] Daily maximum discharge concentration or temperature, as per the permit.
[e] Estimated dilution based on the steady-state mass-balance (for concentration) and heat-balance (for temperature).

Table 4: Estimated Receiving Water Concentration and Temperature due to Daily Maximum Outfall 002 Discharge Concentration and Temperature Compared to Receiving Water Quality Criteria[a]

Parameter	Receiver Criteria[b] (mg/L)	Background Concentration or Temperature[c] (mg/L)	Daily Maximum Effluent Discharge Concentration or Temperature[d] (mg/L)	Receiving Water Concentration or Temperature[e] (mg/L)
Total Copper	0.0048	0.001	0.009	0.004
Total Nickel	0.029	0.001	0.08	0.028
Total Zinc	0.064	0.001	0.114	0.042
Total Phosphorus	-	0.003	1.50	0.542
Cyanide	0.0052	0.004	0.008	0.005
Chloroform	0.47	0.0	0.7	0.254
Temperature (°F) - Summer	71.92	66.92	68.72	67.56
Temperature (°F) - Winter	67.96	62.96	68.72	65.00

[a] Total suspended solids (TSS) and oil/grease are not included in this table, as the mass-balance mixing model cannot account for the distribution of these substances in water.

[b] Receiving water criteria, either as Georgia State Water Quality Guideline (Chronic) or water quality objectives (only for Total Nickel)

c Background concentration as per a grab sample collected from the South Fork Broad River in April 2021. Concentrations at half of the Lower Reporting Limit (LRL) were used for the parameters (copper, nickel, zinc, phosphorus and cyanide) that were below the LRL in the grab sample, whereas chloroform concentration was assumed to be zero as it was not measured. For the representative background water temperature, Outfall 001 stormwater temperature, as per the Permit, was used.

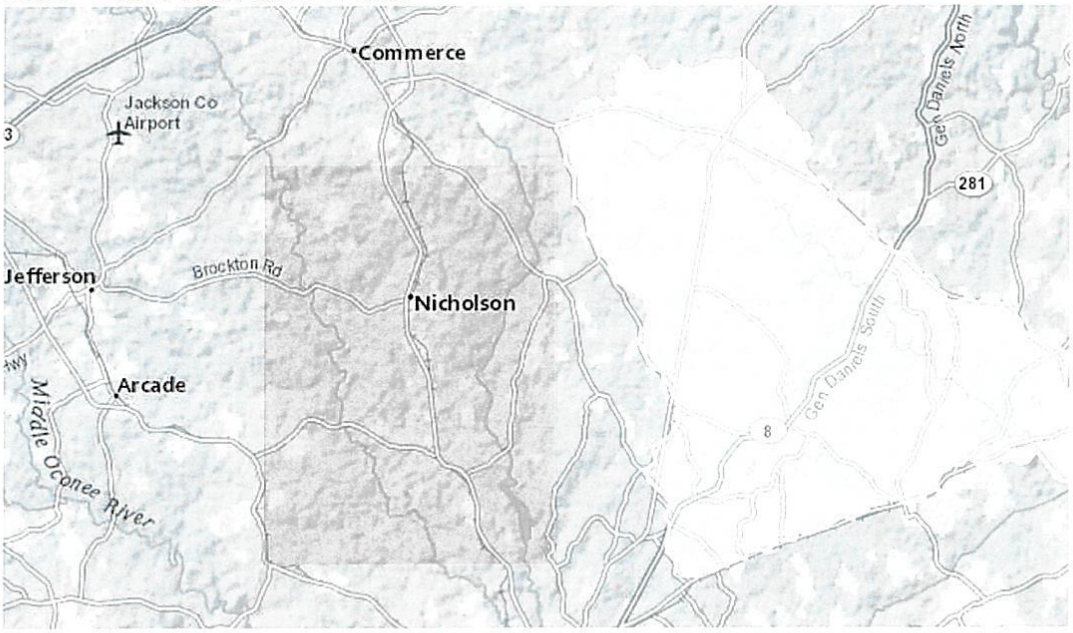
[d] Daily maximum discharge concentration or temperature, as per the permit

[e] Estimated dilution based on mass-balance (for concentration) and heat-balance (for temperature).

ATTACHMENT A

GRP Madison - South Fork Broad River @ Beaverdam Creek

Region ID: GA
Workspace ID: GA20210308202155162000
Clicked Point (Latitude, Longitude): 34.04612, -83.13050
Time: 2021-03-08 15:21:44 -0500



Flow Data for South Fork Broad River just upstream of Beaverdam Creek.

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	91.7	square miles
PCTREG1	Percentage of drainage area located in Region 1 - Piedmont / Ridge and Valley	100	percent
PCTREG2	Percentage of drainage area located in Region 2 - Blue Ridge	0	percent

Parameter Code	Parameter Description	Value	Unit
PCTREG3	Percentage of drainage area located in Region 3 - Sandhills	0	percent
PCTREG4	Percentage of drainage area located in Region 4 - Coastal Plains	0	percent
PCTREG5	Percentage of drainage area located in Region 5 - Lower Tifton Uplands	0	percent
LC06IMP	Percentage of impervious area determined from NLCD 2006 impervious dataset	1.95	percent
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	50.3	inches
RRMEAN	Relief ratio defined as (ELEV-MINBELEV)/(ELEVMAX-MINBELEV)	0.55	dimensionless

Peak-Flow Statistics Parameters[Peak Southeast US over 1 sqmi 2009 5043]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	91.7	square miles	1	9000
PCTREG1	Percent Area in Region 1	100	percent	0	100
PCTREG2	Percent Area in Region 2	0	percent	0	100
PCTREG3	Percent Area in Region 3	0	percent	0	100
PCTREG4	Percent Area in Region 4	0	percent	0	100
PCTREG5	Percent Area in Region 5	0	percent	0	100

Peak-Flow Statistics Flow Report[Peak Southeast US over 1 sqmi 2009 5043]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SEp
50_percent_AEP_flood	2980	ft^3/s	1720	5160	34.5
20_percent_AEP_flood	5020	ft^3/s	2920	8630	34
10_percent_AEP_flood	6470	ft^3/s	3700	11300	35.1
4_percent_AEP_flood	8300	ft^3/s	4590	15000	37.5
2_percent_AEP_flood	9940	ft^3/s	5320	18600	39.6

Statistic	Value	Unit	Pll	Plu	SEp
1_percent_AEP_flood	11400	ft^3/s	5900	22000	41.9
0_5_percent_AEP_flood	12800	ft^3/s	6400	25600	44.3
0_2_percent_AEP_flood	14900	ft^3/s	7100	31300	47.7

Peak-Flow Statistics Citations

Gotvald, A.J., Feaster, T.D., and Weaver, J.C.,2009, Magnitude and Frequency of Rural Floods in the Southeastern United States, 2006: Volume 1, Georgia: U.S. Geological Survey Scientific Investigations Report 2009-5043, 120 p. (http://pubs.usgs.gov/sir/2009/5043/)

Low-Flow Statistics Parameters[N Georgia low flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	91.7	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	50.3	inches	47.6	81.6
RRMEAN	Relief Ratio Mean	0.55	dimensionless	0.146	0.607

Low-Flow Statistics Flow Report[N Georgia low flow 2017 5001]

Pll: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	Pll	Plu
1 Day 10 Year Low Flow	0.433	ft^3/s	0.112	1.67
7 Day 10 Year Low Flow	0.58	ft^3/s	0.159	2.12

Low-Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Annual Flow Statistics Parameters[N Georgia mean flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	91.7	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	50.3	inches	47.6	81.6

Annual Flow Statistics Flow Report[N Georgia mean flow 2017 5001]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu
Mean Annual Flow	92.5	ft^3/s	73.5	116

Annual Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Monthly Flow Statistics Parameters[N Georgia low flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	91.7	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	50.3	inches	47.6	81.6
RRMEAN	Relief Ratio Mean	0.55	dimensionless	0.146	0.607

Monthly Flow Statistics Flow Report[N Georgia low flow 2017 5001]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu
Jan 7 Day 10 Year Low Flow	14.8	ft^3/s	8.21	26.7
Feb 7 Day 10 Year Low Flow	25.1	ft^3/s	16.2	38.8
Mar 7 Day 10 Year Low Flow	32.4	ft^3/s	21.3	49.3
Apr 7 Day 10 Year Low Flow	22.2	ft^3/s	12.5	39.5

Statistic	Value	Unit	PII	Plu
May 7 Day 10 Year Low Flow	8.96	ft^3/s	4.12	19.5
Jun 7 Day 10 Year Low Flow	4.26	ft^3/s	1.61	11.3
Jul 7 Day 10 Year Low Flow	2.05	ft^3/s	0.66	6.37
Aug 7 Day 10 Year Low Flow	1.19	ft^3/s	0.322	4.4
Sep 7 Day 10 Year Low Flow	0.882	ft^3/s	0.258	3.02
Oct 7 Day 10 Year Low Flow	0.901	ft^3/s	0.246	3.3
Nov 7 Day 10 Year Low Flow	2.09	ft^3/s	0.761	5.74
Dec 7 Day 10 Year Low Flow	5.97	ft^3/s	2.69	13.3

Monthly Flow Statistics Citations

Gotvald, A.J.,2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (https://doi.org/10.3133/sir20175001)

Urban Peak-Flow Statistics Parameters[Region 1 Urban under 3 sqmi 2014 5030]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	91.7	square miles	0.1	3
LC06IMP	Percent Impervious NLCD2006	1.95	percent	0	47.9

Urban Peak-Flow Statistics Flow Report[Region 1 Urban under 3 sqmi 2014 5030]

Statistic	Value	Unit

Urban Peak-Flow Statistics Citations

Sauer, Vernon B.; Thomas, W. O., Jr.; Stricker, V. A.; Wilson, K. V.,1983, Flood characteristics of urban watersheds in the United States: U.S. Geological Survey Water-Supply Paper 2207, 63 p. (http://pubs.er.usgs.gov/publication/wsp2207)

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Kennedy, J.R., Paretti, N.V., and Veilleux, A.G.,2014, Methods for estimating magnitude and frequency of 1-, 3-, 7-, 15-, and 30-day flood-duration flows in Arizona: U.S. Geological Survey Scientific Investigations Report 2014–5109, 35 p. (http://pubs.usgs.gov/sir/2014/5109/)

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KJTest KJ (https://test.streamstats.usgs.gov/nss-dev/)

Rural Peak-Flow Statistics Parameters[Region 1 Urban over 3 sqmi 2014 5030]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	91.7	square miles	3	436
LC06IMP	Percent Impervious NLCD2006	1.95	percent	0	47.9

Rural Peak-Flow Statistics Flow Report[Region 1 Urban over 3 sqmi 2014 5030]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SEp
Urban 2 Year Peak Flood	2770	ft^3/s	1450	5300	34.4
Urban 5 Year Peak Flood	4670	ft^3/s	2570	8500	31.4
Urban 10 Year Peak Flood	6070	ft^3/s	3390	10900	30.7
Urban 25 Year Peak Flood	7940	ft^3/s	4360	14500	31.4
Urban 50 Year Peak Flood	9380	ft^3/s	5050	17400	32.4
Urban 100 Year Peak Flood	10900	ft^3/s	5680	20900	34.2
Urban 200 Year Peak Flood	12400	ft^3/s	6260	24600	35.8
Urban 500 Year Peak Flood	14600	ft^3/s	7050	30300	38.7

Rural Peak-Flow Statistics Citations

Feaster, T.D., Gotvald, A.J., and Weaver, J.C.,2014, Methods for estimating the magnitude and frequency of floods for urban and small, rural streams in Georgia, South Carolina, and North Carolina, 2011 (ver. 1.1, March 2014): U.S. Geological Survey Scientific Investigations Report 2014–5030, 104 p. (http://pubs.usgs.gov/sir/2014/5030/)

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Application Version: 4.4.0

ATTACHMENT B

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 13, 2021

Josh Haar
Trinity Consultants
3495 Piedmont Road
Building 10, Suite 905
Atlanta, GA 30305

RE: Project: Project #211101.0098
Pace Project No.: 92532664

Dear Josh Haar:

Enclosed are the analytical results for sample(s) received by the laboratory on April 13, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte
- Pace Analytical Services - Peachtree Corners, GA
- Pace Analytical Services - Ormond Beach

This revised report replaces the report issued on April 21, 2021. Per client request, this report has been revised to report Conductivity data. No other changes have been made to this report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nikita Kuruganty
nikita.kuruganty@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Rebecca Thornton, Pace Analytical Atlanta

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Project #211101.0098
Pace Project No.: 92532664

Pace Analytical Services Ormond Beach
8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Ohio DEP 87780
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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SAMPLE SUMMARY

Project: Project #211101.0098
Pace Project No.: 92532664

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92532664001	SB 2	Water	04/12/21 16:00	04/13/21 08:25
92532664002	SB 1	Water	04/12/21 15:00	04/13/21 08:25

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Project #211101.0098
Pace Project No.: 92532664

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92532664001	SB 2	EPA 1664B	CJM	1	PASI-C
		EPA 200.7	DRB	5	PASI-GA
		SM 2540C-2011	ALW	1	PASI-GA
		SM 2540D-2011	JRS	1	PASI-GA
		SM 4500-Cl G	KN	1	PASI-GA
		SM 4500-P E-2011	AW1	1	PASI-GA
		EPA 120.1-1982	ECH	1	PASI-A
		SM 2310B	EM2	1	PASI-O
		SM 2320B-2011	ECH	1	PASI-A
		EPA 350.1 Rev 2.0 1993	KDF1	1	PASI-A
		EPA 351.2 Rev 2.0 1993	MFO	1	PASI-A
		SM 4500-CN-E-2011	CJL	1	PASI-A
		SM 5310B	AGS	1	PASI-O
		EPA 9056A	JLH	5	PASI-A
92532664002	SB 1	EPA 1664B	CJM	1	PASI-C
		EPA 200.7	DRB	5	PASI-GA
		SM 2540C-2011	ALW	1	PASI-GA
		SM 2540D-2011	JRS	1	PASI-GA
		SM 4500-Cl G	KN	1	PASI-GA
		SM 4500-P E-2011	AW1	1	PASI-GA
		EPA 120.1-1982	ECH	1	PASI-A
		SM 2310B	EM2	1	PASI-O
		SM 2320B-2011	ECH	1	PASI-A
		EPA 350.1 Rev 2.0 1993	KDF1	1	PASI-A
		EPA 351.2 Rev 2.0 1993	MFO	1	PASI-A
		SM 4500-CN-E-2011	CJL	1	PASI-A
		SM 5310B	AGS	1	PASI-O
		EPA 9060A	JLH	1	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA
PASI-O = Pace Analytical Services - Ormond Beach

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Project #211101.0098
Pace Project No.: 92532664

Sample: SB 2 **Lab ID: 92532664001** Collected: 04/12/21 16:00 Received: 04/13/21 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664B Pace Analytical Services - Charlotte							
Oil and Grease	ND	mg/L	5.0	1		04/20/21 09:29		
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Peachtree Corners, GA							
Chromium	ND	ug/L	10.0	1	04/14/21 10:38	04/14/21 15:09	7440-47-3	
Copper	ND	ug/L	20.0	1	04/14/21 10:38	04/14/21 15:09	7440-50-8	
Nickel	ND	ug/L	20.0	1	04/14/21 10:38	04/14/21 15:09	7440-02-0	
Phosphorus	**53.8**	ug/L	50.0	1	04/14/21 10:38	04/14/21 15:09	7723-14-0	
Zinc	ND	ug/L	20.0	1	04/14/21 10:38	04/14/21 15:09	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**42.0**	mg/L	10.0	1		04/17/21 09:44		
2540D Total Suspended Solids	Analytical Method: SM 2540D-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Suspended Solids	**25.5**	mg/L	5.0	1		04/14/21 13:09		
4500CLG Chlorine, Free ATL	Analytical Method: SM 4500-Cl G Pace Analytical Services - Peachtree Corners, GA							
Chlorine, Free	ND	mg/L	0.10	1		04/13/21 15:25	7782-50-5	H3
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Peachtree Corners, GA							
Orthophosphate as P	ND	mg/L	0.020	1		04/14/21 07:13		
120.1 Specific Conductance	Analytical Method: EPA 120.1-1982 Pace Analytical Services - Asheville							
Specific Conductance	**50.6**	umhos/cm	10.0	1		05/13/21 10:46		H3
2310B Acidity, Total	Analytical Method: SM 2310B Pace Analytical Services - Ormond Beach							
Acidity, Total	**4.0**	mg/L	1.0	1		04/15/21 11:19		N2
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity, Total as CaCO3	**13.3**	mg/L	5.0	1		04/16/21 21:51		
350.1 Ammonia	Analytical Method: EPA 350.1 Rev 2.0 1993 Pace Analytical Services - Asheville							
Nitrogen, Ammonia	ND	mg/L	0.10	1		04/16/21 10:20	7664-41-7	

REPORT OF LABORATORY ANALYSIS

Date: 05/13/2021 04:19 PM

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

ANALYTICAL RESULTS

Project: Project #211101.0098
Pace Project No.: 92532664

Sample: SB 2 **Lab ID: 92532664001** Collected: 04/12/21 16:00 Received: 04/13/21 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Rev 2.0 1993 Preparation Method: EPA 351.2 Rev 2.0 1993 Pace Analytical Services - Asheville							
Nitrogen, Kjeldahl, Total	ND	mg/L	0.50	1	04/19/21 21:15	04/20/21 05:16	7727-37-9	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E-2011 Preparation Method: SM 4500-CN-E-2011 Pace Analytical Services - Asheville							
Cyanide	ND	mg/L	0.0080	1	04/15/21 00:12	04/15/21 19:47	57-12-5	
5310B Dissolved Organic Carbon	Analytical Method: SM 5310B Pace Analytical Services - Ormond Beach							
Dissolved Organic Carbon	**2.4**	mg/L	1.0	1		04/16/21 02:39		
9056 IC Anions 48hr	Analytical Method: EPA 9056A Pace Analytical Services - Asheville							
Bromide	ND	mg/L	0.10	1		04/13/21 22:39	24959-67-9	
Chloride	**3.4**	mg/L	1.0	1		04/13/21 22:39	16887-00-6	
Nitrate as N	**0.45**	mg/L	0.10	1		04/13/21 22:39	14797-55-8	
Nitrite as N	ND	mg/L	0.10	1		04/13/21 22:39	14797-65-0	
Sulfate	**1.0**	mg/L	1.0	1		04/13/21 22:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
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ANALYTICAL RESULTS

Project: Project #211101.0098
Pace Project No.: 92532664

Sample: SB 1 **Lab ID: 92532664002** Collected: 04/12/21 15:00 Received: 04/13/21 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664B Pace Analytical Services - Charlotte							
Oil and Grease	ND	mg/L	5.0	1		04/20/21 09:29		
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Peachtree Corners, GA							
Chromium	ND	ug/L	10.0	1	04/14/21 10:38	04/14/21 15:14	7440-47-3	
Copper	ND	ug/L	20.0	1	04/14/21 10:38	04/14/21 15:14	7440-50-8	
Nickel	ND	ug/L	20.0	1	04/14/21 10:38	04/14/21 15:14	7440-02-0	
Phosphorus	ND	ug/L	50.0	1	04/14/21 10:38	04/14/21 15:14	7723-14-0	
Zinc	ND	ug/L	20.0	1	04/14/21 10:38	04/14/21 15:14	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	**42.0**	mg/L	10.0	1		04/17/21 09:44		
2540D Total Suspended Solids	Analytical Method: SM 2540D-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Suspended Solids	**21.0**	mg/L	5.0	1		04/14/21 13:10		
4500CLG Chlorine, Free ATL	Analytical Method: SM 4500-Cl G Pace Analytical Services - Peachtree Corners, GA							
Chlorine, Free	ND	mg/L	0.10	1		04/13/21 15:25	7782-50-5	H3
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Peachtree Corners, GA							
Orthophosphate as P	ND	mg/L	0.020	1		04/14/21 07:12		
120.1 Specific Conductance	Analytical Method: EPA 120.1-1982 Pace Analytical Services - Asheville							
Specific Conductance	**50.7**	umhos/cm	10.0	1		05/13/21 10:50		H3
2310B Acidity, Total	Analytical Method: SM 2310B Pace Analytical Services - Ormond Beach							
Acidity, Total	**4.0**	mg/L	1.0	1		04/15/21 11:20		N2
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity, Total as CaCO3	**13.4**	mg/L	5.0	1		04/16/21 21:56		
350.1 Ammonia	Analytical Method: EPA 350.1 Rev 2.0 1993 Pace Analytical Services - Asheville							
Nitrogen, Ammonia	ND	mg/L	0.10	1		04/16/21 10:24	7664-41-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Project #211101.0098
Pace Project No.: 92532664

Sample: SB 1 **Lab ID: 92532664002** Collected: 04/12/21 15:00 Received: 04/13/21 08:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Rev 2.0 1993 Preparation Method: EPA 351.2 Rev 2.0 1993 Pace Analytical Services - Asheville							
Nitrogen, Kjeldahl, Total	ND	mg/L	0.50	1	04/19/21 21:15	04/20/21 05:19	7727-37-9	
4500CNE Cyanide, Total	Analytical Method: SM 4500-CN-E-2011 Preparation Method: SM 4500-CN-E-2011 Pace Analytical Services - Asheville							
Cyanide	ND	mg/L	0.0080	1	04/15/21 00:12	04/15/21 19:50	57-12-5	
5310B Dissolved Organic Carbon	Analytical Method: SM 5310B Pace Analytical Services - Ormond Beach							
Dissolved Organic Carbon	**2.3**	mg/L	1.0	1		04/16/21 02:50		
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Mean Total Organic Carbon	**2.5**	mg/L	1.0	1		04/20/21 18:39	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 614815
QC Batch Method: EPA 1664B
Analysis Method: EPA 1664B
Analysis Description: 1664 HEM, Oil and Grease
Laboratory: Pace Analytical Services - Charlotte

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3235418 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/20/21 09:29	

LABORATORY CONTROL SAMPLE: 3235419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	32.3	81	78-114	

MATRIX SPIKE SAMPLE: 3235420

Parameter	Units	92531893001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	31.2	71	78-114	M1

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613605
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals Total
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3229358 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	ND	10.0	04/14/21 14:35	
Copper	ug/L	ND	20.0	04/14/21 14:35	
Nickel	ug/L	ND	20.0	04/14/21 14:35	
Phosphorus	ug/L	ND	50.0	04/14/21 14:35	
Zinc	ug/L	ND	20.0	04/14/21 14:35	

LABORATORY CONTROL SAMPLE: 3229359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Phosphorus	ug/L	1000	971	97	85-115	
Zinc	ug/L	1000	980	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3229360 3229361

Parameter	Units	92532660001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	ND	1000	1000	973	959	97	96	70-130	1	20	
Copper	ug/L	ND	1000	1000	1040	1060	103	105	70-130	2	20	
Nickel	ug/L	ND	1000	1000	1020	1030	102	103	70-130	1	20	
Phosphorus	ug/L	ND	1000	1000	1030	1050	101	102	70-130	1	20	
Zinc	ug/L	ND	1000	1000	953	961	95	96	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3229362 3229363

Parameter	Units	92532896003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	ND	1000	1000	977	974	98	97	70-130	0	20	
Copper	ug/L	ND	1000	1000	992	982	99	98	70-130	1	20	
Nickel	ug/L	ND	1000	1000	982	970	98	97	70-130	1	20	
Phosphorus	ug/L	ND	1000	1000	989	972	94	92	70-130	2	20	
Zinc	ug/L	ND	1000	1000	940	942	94	94	70-130	0	20	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613879
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3230812 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	04/17/21 09:43	

LABORATORY CONTROL SAMPLE: 3230813

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	388	97	90-111	

SAMPLE DUPLICATE: 3230814

Parameter	Units	92532611001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	27500	26200	5	10	

SAMPLE DUPLICATE: 3230815

Parameter	Units	92533049003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	227	233	3	10	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613663
QC Batch Method: SM 2540D-2011
Analysis Method: SM 2540D-2011
Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3229707 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	04/14/21 13:04	

LABORATORY CONTROL SAMPLE: 3229708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	94.5	94	90-110	

SAMPLE DUPLICATE: 3229709

Parameter	Units	92532611002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	237	280	17	10	D6,PK

SAMPLE DUPLICATE: 3229710

Parameter	Units	92532896002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	39.5	39.5	0	10	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613427
QC Batch Method: SM 4500-Cl G
Analysis Method: SM 4500-Cl G
Analysis Description: 4500CLG Chlorine, Free ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3228580 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlorine, Free	mg/L	ND	0.10	04/13/21 15:24	

LABORATORY CONTROL SAMPLE: 3228582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorine, Free	mg/L	1	1.1	106	90-110	

SAMPLE DUPLICATE: 3228581

Parameter	Units	92532664002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chlorine, Free	mg/L	ND	.049J		10	H3

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613554
QC Batch Method: SM 4500-P E-2011
Analysis Method: SM 4500-P E-2011
Analysis Description: SM4500P-E Phosphorus, Ortho
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3229221 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.020	04/14/21 07:05	

LABORATORY CONTROL SAMPLE: 3229222

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.5	0.58	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3229223 3229224

Parameter	Units	92532660001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	ND	0.5	0.5	0.57	0.58	113	117	80-120	3	10	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 620026
QC Batch Method: EPA 120.1-1982
Analysis Method: EPA 120.1-1982
Analysis Description: 120.1 Specific Conductance
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3262187 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	05/13/21 10:41	

LABORATORY CONTROL SAMPLE: 3262188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1400	99	90-110	

SAMPLE DUPLICATE: 3262189

Parameter	Units	92532664001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	50.6	50.7	0	10	H3

SAMPLE DUPLICATE: 3262190

Parameter	Units	92538088003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	ND	ND		10	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 721282
QC Batch Method: SM 2310B
Analysis Method: SM 2310B
Analysis Description: 2310B Acidity, Total
Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3931170 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acidity, Total	mg/L	ND	1.0	04/15/21 11:13	N2

SAMPLE DUPLICATE: 3931171

Parameter	Units	35625349001 Result	Dup Result	RPD	Max RPD	Qualifiers
Acidity, Total	mg/L	26.0	26.0	0	10	N2

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 614331
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3233228 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	04/16/21 20:32	

LABORATORY CONTROL SAMPLE: 3233229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.6	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3233230 3233231

Parameter	Units	92533107001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	52.2	50	50	101	102	98	100	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3233232 3233233

Parameter	Units	92533107002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	76.2	50	50	130	132	108	112	80-120	2	25	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613961
QC Batch Method: EPA 350.1 Rev 2.0 1993
Analysis Method: EPA 350.1 Rev 2.0 1993
Analysis Description: 350.1 Ammonia
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3231166 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	04/16/21 10:10	

LABORATORY CONTROL SAMPLE: 3231167

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	5	5.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3231168 3231169

Parameter	Units	92532654001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	2.0	5	5	6.9	6.9	97	97	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3231170 3231171

Parameter	Units	92532664001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	5	5	4.8	4.8	96	95	90-110	0	10	

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 614635
QC Batch Method: EPA 351.2 Rev 2.0 1993
Analysis Method: EPA 351.2 Rev 2.0 1993
Analysis Description: 351.2 TKN
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3234629 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	0.50	04/20/21 05:04	

LABORATORY CONTROL SAMPLE: 3234630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	10	9.3	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234631 3234632

Parameter	Units	92531374001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/L	8.2	10	10	24.9	19.4	167	112	90-110	25	10	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234633 3234634

Parameter	Units	92532020002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/L	66.2	10	10	80.2	80.1	139	139	90-110	0	10	M1

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QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613817
QC Batch Method: SM 4500-CN-E-2011
Analysis Method: SM 4500-CN-E-2011
Analysis Description: 4500CNE Cyanide, Total
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3230689 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.0080	04/15/21 19:41	

LABORATORY CONTROL SAMPLE: 3230690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3230691 3230692

Parameter	Units	92532664001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	0.1	0.1	0.088	0.092	86	91	80-120	5	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3230693 3230694

Parameter	Units	92532664002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	0.1	0.1	0.089	0.095	86	93	80-120	7	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Date: 05/13/2021 04:19 PM

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 721277
QC Batch Method: SM 5310B
Analysis Method: SM 5310B
Analysis Description: 5310B Dissolved Organic Carbon
Laboratory: Pace Analytical Services - Ormond Beach
Associated Lab Samples: 92532664001, 92532664002

METHOD BLANK: 3931140 Matrix: Water
Associated Lab Samples: 92532664001, 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	04/15/21 21:02	

LABORATORY CONTROL SAMPLE: 3931141

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	20	20.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3931142 3931143

Parameter	Units	92531207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	1.6	20	20	20.7	20.5	95	94	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3931144 3931145

Parameter	Units	35625707007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	7.4	20	20	25.8	25.7	92	92	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

Date: 05/13/2021 04:19 PM

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 613504
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC Anions
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92532664001

METHOD BLANK: 3229101 Matrix: Water
Associated Lab Samples: 92532664001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	ND	0.10	04/13/21 21:50	
Chloride	mg/L	ND	1.0	04/13/21 21:50	
Nitrate as N	mg/L	ND	0.10	04/13/21 21:50	
Nitrite as N	mg/L	ND	0.10	04/13/21 21:50	
Sulfate	mg/L	ND	1.0	04/13/21 21:50	

LABORATORY CONTROL SAMPLE: 3229102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	2.5	2.5	102	90-110	
Chloride	mg/L	50	53.4	107	90-110	
Nitrate as N	mg/L	2.5	2.6	105	90-110	
Nitrite as N	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	50	52.9	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3229103 3229104

Parameter	Units	92532664001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromide	mg/L	ND	2.5	2.5	2.3	2.4	93	94	90-110	2	10	
Chloride	mg/L	3.4	50	50	52.5	52.6	98	99	90-110	0	10	
Nitrate as N	mg/L	0.45	2.5	2.5	2.9	2.9	99	100	90-110	1	10	
Nitrite as N	mg/L	ND	2.5	2.5	2.4	2.5	97	98	90-110	1	10	
Sulfate	mg/L	1.0	50	50	49.3	49.3	97	97	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

Date: 05/13/2021 04:19 PM

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Project #211101.0098
Pace Project No.: 92532664

QC Batch: 614680
QC Batch Method: EPA 9060A
Analysis Method: EPA 9060A
Analysis Description: 9060 TOC, AVL
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92532664002

METHOD BLANK: 3234952 Matrix: Water
Associated Lab Samples: 92532664002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	04/20/21 18:03	

LABORATORY CONTROL SAMPLE: 3234953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	25.3	101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234954 3234955

Parameter	Units	92532664002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	2.5	25	25	27.2	27.5	99	100	75-125	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3234956 3234957

Parameter	Units	92533765002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	2.5	25	25	28.4	28.7	104	105	75-125	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Date: 05/13/2021 04:19 PM

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Project #211101.0098
Pace Project No.: 92532664

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
PK	Sample volume was decreased because complete filtration was not achieved within the maximum method-specified timeframe.
R1	RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Project #211101.0098
Pace Project No.: 92532664

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92532664001	SB 2	EPA 1664B	614815		
92532664002	SB 1	EPA 1664B	614815		
92532664001	SB 2	EPA 200.7	613605	EPA 200.7	613668
92532664002	SB 1	EPA 200.7	613605	EPA 200.7	613668
92532664001	SB 2	SM 2540C-2011	613879		
92532664002	SB 1	SM 2540C-2011	613879		
92532664001	SB 2	SM 2540D-2011	613663		
92532664002	SB 1	SM 2540D-2011	613663		
92532664001	SB 2	SM 4500-Cl G	613427		
92532664002	SB 1	SM 4500-Cl G	613427		
92532664001	SB 2	SM 4500-P E-2011	613554		
92532664002	SB 1	SM 4500-P E-2011	613554		
92532664001	SB 2	EPA 120.1-1982	620026		
92532664002	SB 1	EPA 120.1-1982	620026		
92532664001	SB 2	SM 2310B	721282		
92532664002	SB 1	SM 2310B	721282		
92532664001	SB 2	SM 2320B-2011	614331		
92532664002	SB 1	SM 2320B-2011	614331		
92532664001	SB 2	EPA 350.1 Rev 2.0 1993	613961		
92532664002	SB 1	EPA 350.1 Rev 2.0 1993	613961		
92532664001	SB 2	EPA 351.2 Rev 2.0 1993	614635	EPA 351.2 Rev 2.0 1993	614805
92532664002	SB 1	EPA 351.2 Rev 2.0 1993	614635	EPA 351.2 Rev 2.0 1993	614805
92532664001	SB 2	SM 4500-CN-E-2011	613817	SM 4500-CN-E-2011	613849
92532664002	SB 1	SM 4500-CN-E-2011	613817	SM 4500-CN-E-2011	613849
92532664001	SB 2	SM 5310B	721277		
92532664002	SB 1	SM 5310B	721277		
92532664001	SB 2	EPA 9056A	613504		
92532664002	SB 1	EPA 9060A	614680		

REPORT OF LABORATORY ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 Of 1

…alytical

…rmation:
…y Consultants
… Piedmont Road
…ltyconsultants.com
…-441-9977 Fax:
…ate:

Section B
Required Project Information:
Report To: Josh Haar
Copy To:
Purchase Order #:
Project Name: Project Project #211101.0098
Project #:

Section C
Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nikita.kuruganty@pacelabs.com,
Pace Profile #: 3116

Regulatory Agency
State / Location: GA

SAMPLE ID
One Character per box. (A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

Sample ID	Matrix Code	Sample Type (G=GRAB C=COMP)	Start Date	Start Time	End Date	End Time	Sample Temp at Collection	# of Containers	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Metals	Cyanide	Ortho Phosphorus	8260- Chloroform	TSS/TDS	TOC	Anions 300.0 Br Cl NO3 NO…	DOC (Dissolved Organic Ca…	TKN/ammonia	Alkalinity/ Acidity	Oil and Grease by 1664	Free chlorine	Residual Chlorine (Y/N)
~~SB1~~		G	~~4/12~~	~~8:00~~													1	1	1	—	1	—	1	3	1	1	2	1	Y
~~SB2~~		G			4/12	3:00 pm		13	5	1	1	6	1				1	1	1	—	1	—	1	3	1	1	2	1	Y
~~SB1~~	WT	G	4/12	2:00pm	4/12	4:00 pm		13	5	1	1	6	1				1	1	1	—	1	2	—	2	1	1	2	1	Y
SB2	WT	G	4/12	3:00pm	4/12	4:00 pm		13	4	1	1	7	1																
SB1	WT	G	4/12	2:00pm	4/12	8:00pm																							

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	J. Haar / Trinity	4/13/21	8:15am	K. Wilby / Pace	4/13/21	0825	7.2	N	Y	Y
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh Haar
SIGNATURE of SAMPLER: [signature]
DATE Signed: 4/12/2021

WO#: 92532664

92532664

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Pace Analytical

Document Name: Sample Condition Upon Receipt(SCUR)	Page 1 of 2
Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples: Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Trinity Consultants ☑ Client

Project #: WO#: 92532664

PM: NJK Due Date: 04/20/21

CLIENT: GA-Trinity

Courier: ☐ Commercial ☐ Fed Ex ☐ UPS ☐ USPS ☐ Pace ☐ Other:

Custody Seal Present? ☑ Yes ☐ No Seals Intact? ☑ Yes ☐ No

Date/Initials Person Examining Contents: 4/13/21 KDW

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: IR2833 Type of Ice: ☐ Wet ☐ Blue ☑ None melted

Cooler Temp: 7.4 Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 7.2

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☐ Yes	☑ No	☐ N/A	2. F Chlorine arrived out of hold
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☐ No	☐ N/A	4.
Sufficient Volume?	☐ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☐ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☐ Yes	☐ No	☐ N/A	
Containers Intact?	☐ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☐ N/A	8.
Sample Labels Match COC?	☐ Yes	☐ No	☐ N/A	9.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☐ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	

Field Data Required? ☐ Yes ☐ No

COMMENTS/SAMPLE DISCREPANCY

arrived out of temp. compliance pH's checked and within range

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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