

City of Jackson

Wastewater Treatment Plant Operations & Maintenance Program

Version 2.0

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Wastewater Treatment Plant Operations and Maintenance Program

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Chokwe Antar Lumumba
Mayor

Date

Marlin King
Director of Public Works

Date

**Summary of Revisions to Wastewater Treatment Plant Operations &
Maintenance Program CMOM Report Version 2.0**

<i>Date of Revision</i>	<i>Author(s)</i>	<i>Section(s) Revised</i>	<i>Description of Revisions</i>
7/1/2021	COJ WEI/AJA LLC	1.0	Modified purpose of report, which is to document what has changed in the WWTP O&M Program after hiring a new contract operator.
7/1/2021	COJ WEI/AJA LLC	2.0	No change.
7/1/2021	COJ WEI/AJA LLC	3.0	Described asset and maintenance management system of new contract operator.
7/1/2021	COJ WEI/AJA LLC	4.0	Provided updates to the solids management practices with new contract operator.
7/1/2021	COJ WEI/AJA LLC	5.0	Described Preventative Maintenance Program implemented by new contract operator.

Wastewater Treatment Plant Operations and Maintenance Program

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1.0 Introduction

The City of Jackson entered into a Consent Decree with the U.S. Department of Justice (USDOJ), US Environmental Protection Agency (USEPA) and Mississippi Department of Environmental Quality (MDEQ) on March 1, 2013 to address inadequacies of the City's wastewater collection and treatment facilities. As one requirement of the Consent Decree, a ***Wastewater Treatment Plant Operations and Maintenance Program*** report was developed and submitted to EPA on May 30, 2014. The O&M program was approved by EPA on April 21, 2015. Currently, Jackson employs a professional operations and maintenance (O&M) company to operate and maintain all three of the City's wastewater treatment plants (WWTPs). Since the original WWTP O&M Program was submitted, the operating company contract term expired and a new contract operator was subsequently hired by the City. The new operator introduced its own O&M practices and procedures which in some cases differed from the ones described in the original WWTP O&M Program approved by EPA. The Program presented herein provides an update to the original Program by describing the Wastewater Treatment Plant Operations and Maintenance Program used by the current contract operator of the WWTPs.

1.1 Consent Decree Requirements

As stated in the Consent Decree, the Wastewater Treatment Plant Operations and Maintenance Program shall contain the following, at a minimum:

1. Equipment, Parts, and Material Inventory. The City shall inventory its WWTPs' operating equipment and materials and evaluate the impacts of the loss of use or failure of each major system component. The City shall develop an inventory control system which shall have the capability of tracking spare parts use and inventory, as well as generating inventory replenishment needs reports. The City's inventory control system shall also include the following elements:
 - 1) Prioritization of WWTP components as critical, semi-critical, or noncritical which shall allow the City to focus its maintenance capabilities and spare parts inventories on the WWTP components and potential failures that would have the greatest impact on treatment capacity, Prohibited Bypassing, and NPDES Permit compliance.
 - 2) Identification of critical spare parts and materials, and procedures to ensure that these parts and materials are stored and maintained in inventory at the WWTP.
 - 3) A list of where the remaining spare parts may be secured to enable the repair or replacement of such equipment in a minimum amount of time and to ensure proper operation of the WWTP.

- 4) Tracking of spare parts use and inventory, as well as generating inventory replenishment needs reports.
2. Sludge Processing and Removal. Not inconsistent with the requirements of the MDEQ Agreed Order I, the maintenance program shall include sludge removal procedures, schedules, and standard practices for the WWTPs and from any storage lagoons, wet weather storage cells, equalization ponds, or any other wet weather storage facility that is, or is planned for use by, a WWTP.
3. Preventive Maintenance. The City shall develop and implement a preventive maintenance system for the WWTPs to ensure that preventive and corrective maintenance is conducted and that equipment integral to proper operation and maintenance, treatment units, and tanks are maintained so as to achieve compliance with the NPDES permit. The preventive maintenance system shall include, at a minimum, the following:
 - 1) Identification of equipment used in the treatment of wastewater liquids and biosolids.
 - 2) Identification of the standard procedures to conduct preventive maintenance of such WWTP equipment.
 - 3) Identification of the frequency and duration of preventive maintenance necessary to ensure that all WWTP equipment is maintained in such a way so as to achieve compliance with the NPDES permit.
 - 4) Identification of the training and education required for maintenance personnel to perform the standard preventive maintenance procedures.
 - 5) Procedures for recognition of indicators that corrective maintenance on WWTP equipment is necessary.
 - 6) Procedures for the generation of work orders for preventive and corrective maintenance of WWTP equipment.
 - 7) Procedures for the generation of purchase orders associated with preventive and corrective maintenance of WWTP equipment.
 - 8) Examples of the types of reports and forms which will be used in implementing the preventive maintenance system.
 - 9) A system for tracking preventive and corrective maintenance activities and histories including the generation of summary reports each month that identify major

equipment failures occurring in the previous month and the end-of-month status of preventive and corrective maintenance work orders issued or outstanding in the previous month for equipment.

- 10) Procedures to ensure that failures of equipment and/or loss of power supply during abnormal and emergency conditions are corrected in a timely fashion so as to limit the downtime of the facility or component.

1.2 Report Organization

An overview of the City of Jackson wastewater treatment plants is given in Section 2, together with a general description of the contract operations and maintenance program. Section 3 describes the computerized maintenance management system software used by the contract operator, and the associated equipment, parts, and materials tracking procedures. Section 4 describes standard operating procedures for maintenance of the storm cells (equalization basins) at the Savanna Street WWTP to avoid excess sludge accumulation, and for maintaining proper sludge inventories within the main treatment plant unit processes. The WWTP Preventive Maintenance program is described in Section 5, including standard operating procedures and a summary of the qualifications and training requirements for O&M staff. Implementation of the program is discussed in Section 6.

2.0 Jackson Wastewater Treatment Plants

The City of Jackson operates three wastewater treatment plants. A brief description of each facility is provided below.

2.1 Savanna WWTP

The Savanna WWTP serves most of the population in the City together with flow from three satellite utility authorities. These contribute wastewater flow from western Rankin County, southern Madison County, and the Pearl River Valley Water Supply District (Barnett Reservoir area). The Savanna Street plant has a permitted capacity of 46 MGD summer and 60 MGD winter. Annual flows to the plant currently average about 45 MGD.

The Savanna WWTP is a conventional activated sludge facility without primary clarifiers. Flow is received through the 50-ft deep 96-in diameter West Bank interceptor. The West Rankin force main also discharges to the West Bank interceptor upstream of the influent pump station. Major unit processes are:

- Influent trash racks.
- Influent pump station.
- Headworks with two mechanically cleaned bar screens, two screenings compactors, two vortex grit removal units, two grit pumps, and two grit washing units.
- Bioselector basin to promote good sludge settling.
- Ten aeration basins with fine bubble tube diffusers, each 2.56 MG in volume.
- Aeration blower facility with four single stage blowers.
- Five 140-ft diameter secondary clarifiers.
- Two return sludge pump stations.
- Two waste activated sludge pumps.
- Chlorine storage and feeding equipment for disinfection.
- Chlorine contact channel.
- Sulfur dioxide storage and feeding equipment for dechlorination.
- Effluent pump stations for use when river levels are high.
- Outfall to the Pearl River.
- Three excess flow equalization basins.
- Two aerobic digesters.
- Two gravity sludge thickeners.
- Thickened sludge holding tank.
- Belt filter presses for sludge dewatering.

A schematic of the Savanna WWTP is shown in Figure 2-1. An aerial view of the plant is shown on Figure 2-2.

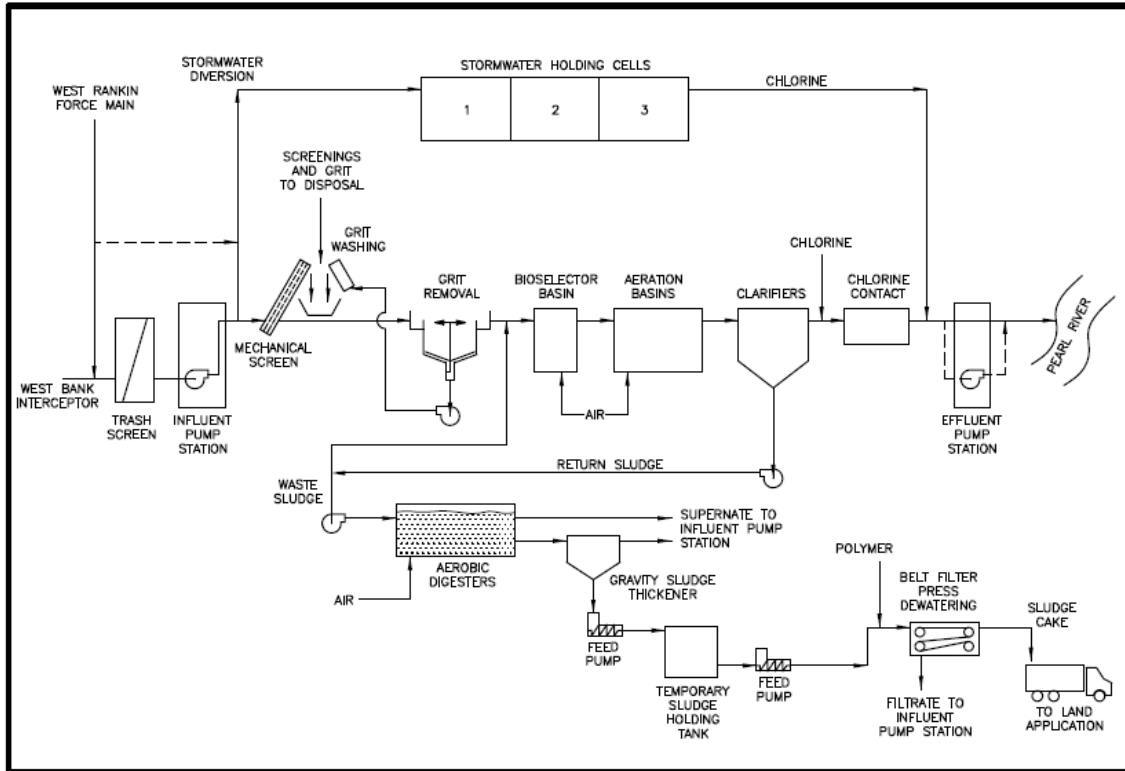


Figure 2-1 Savanna WWTP Schematic



Figure 2-2 Savanna WWTP Aerial View

2.2 Presidential Hills WWTP

The 0.75 MGD Presidential Hills WWTP began operation in 2014 and replaced a conventional aerated lagoon system, which are now serving as flow equalization basins. The plant uses the sequencing batch reactor (SBR) process that was selected in response to new, more stringent permit limits for nutrients. A process schematic of the plant is shown on Figure 2-3.

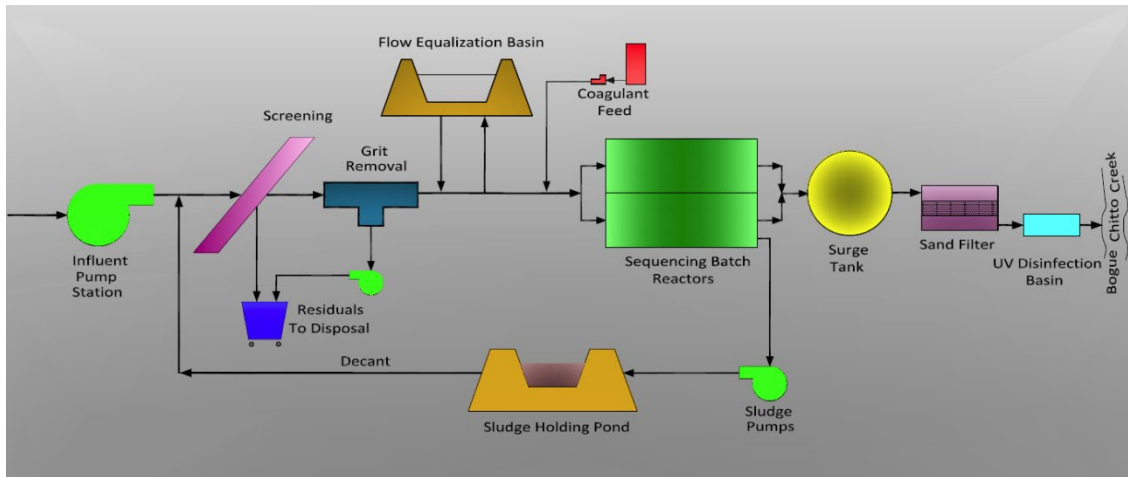


Figure 2-3
Presidential Hills WWTP Schematic

2.3 Trahon/Big Creek WWTP

The 4 MGD Trahon/Big Creek WWTP uses the oxidation ditch process. Principal unit processes are:

- Influent pump station
- Mechanical bar screens
- Aerated grit chamber with grease removal
- Two Carousel® oxidation ditches
- Two secondary clarifiers
- Chlorine contact basin
- Aerobic digestion

The plant does not have any on-site mechanical sludge thickening or dewatering capability. All waste sludge produced by the plant is hauled to the Savanna WWTP for treatment. An aerial photo of the Trahon/Big Creek WWTP is shown on Figure 2-4.



Figure 2-4
Trahon/Big Creek WWTP

2.4 WWTP Contract Operator

The current WWTP contract operator is Veolia North America. Veolia provides a detailed report each month to the City summarizing facility operations and maintenance activities performed. A summary of the activities performed is provided for:

- Plant administration
- Wastewater received from West Rankin Utility Authority
- Laboratory operations
- Wastewater treatment operations
- Maintenance activities performed
- Emergency projects
- Biosolids processing and land application
- Leachate, septage, and other liquid wastes received

An example contract operator monthly report is provided in Appendix A.

3.0 Equipment, Parts and Material Inventory

A characteristic of a quality WWTP O&M program is a good system of managing the inventory of operating equipment, spare parts, and materials. A description of the inventory control system used by the City, through its professional contract operator, is described in this Section.

3.1 Asset and Maintenance Management

The contract operator employs the Llumini (formerly known as eR Portal) enterprise performance management system (EPS) to provide integrated planning, analysis, accounting, and reporting tools that aid staff in proper operation and management of assigned facilities and systems. Llumini has computer modules that can assist with:

- Planning
- Budgeting
- Performance monitoring
- Progress tracking
- Communications management
- Scheduling and forecasting
- Cost management
- Reporting

The Llumini EPS is used in operation and management of all of Jackson's wastewater treatment plants and wastewater pump stations.

Computerized Maintenance Management System

The computerized maintenance management system (CMMS) module within Llumini provides enterprise asset management and materials management applications designed to optimize operations, maintain assets and infrastructure, and manage all related materials, resources, and logistics of all maintenance related tasks. The system provides operational flexibility and can be adapted to specific work environments and workflows, including both planned and unplanned work order logistics. The Llumini CMMS includes a comprehensive inventory control system with the capability to track spare parts and consumable usage, determine replenishment needs, and generate replenishment purchase orders and inventory reports. Records can be kept of spare parts inventory quantity changes and maintenance activities performed. The Llumini CMMS also supports GASB34 accounting standards and USEPA Capacity, Management, Operation and Maintenance (CMOM) regulations with asset tracking and environmental compliance capabilities. These capabilities include tracking warranties and labor for budgeting purposes, monitoring safety hazards for work orders, making condition-based assessments, and tracking assets. The system is designed to simplify maintenance and compliance tasks for water and wastewater treatment plants.

The CMMS asset and maintenance management capabilities are illustrated on Figure 3-1.

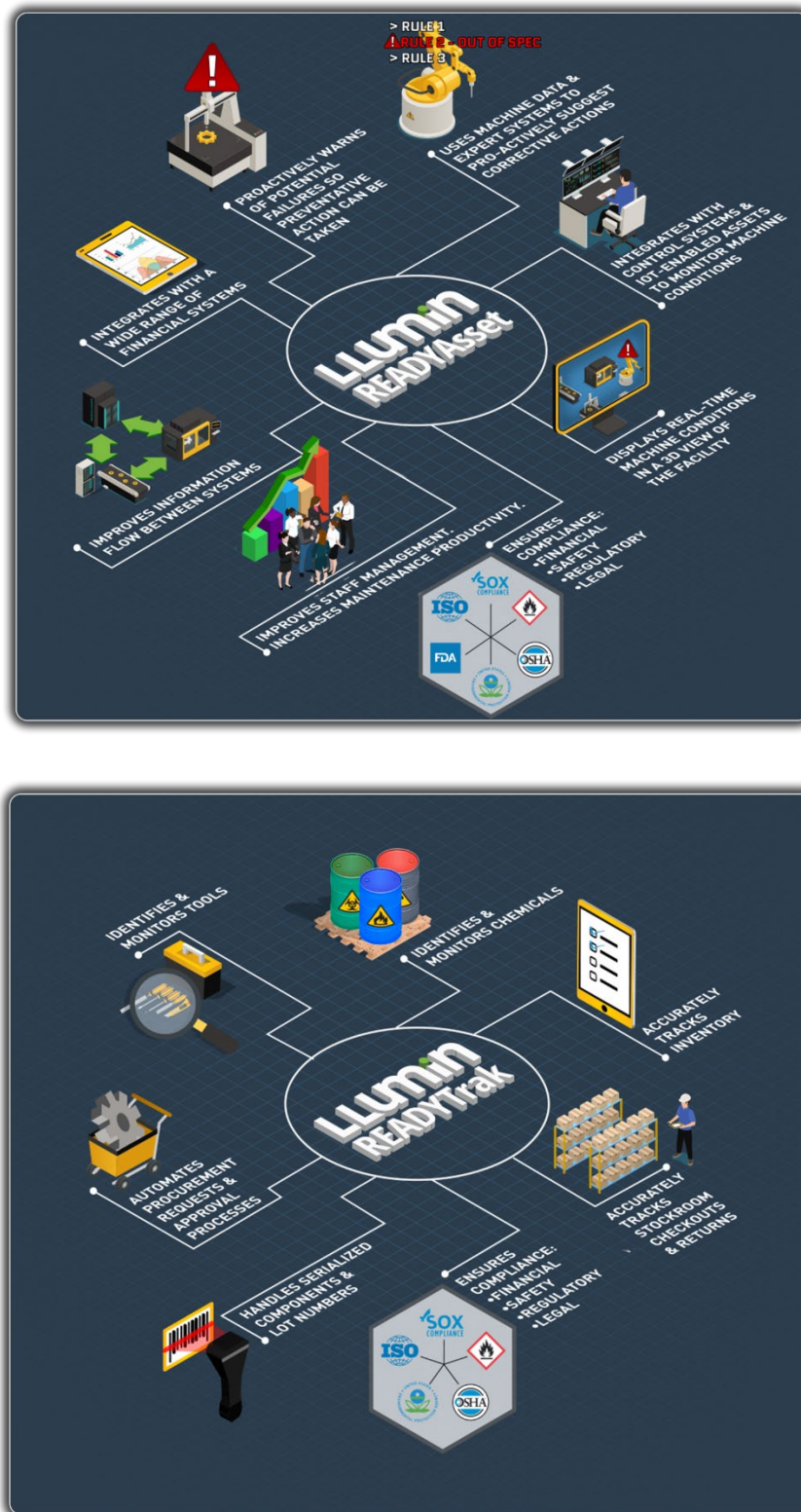


Figure 3-1
Lumin Enterprise Management System Modules

Operations Data Management

The contract operator collects data from a variety of sources that is used to monitor and plan facility operations. These include instrumentation readouts delivered through SCADA, manually recorded data points collected by operators as part of daily operations, and analytical data generated by on-site and off-site laboratories. The operations data is managed locally using a custom designed Excel-based spreadsheet system.

3.2 Inventory Control

The contract operator maintains on-site inventories of required spare parts, materials, equipment, and consumables needed to properly operate and maintain the wastewater treatment plants and pump stations. The maintenance staff strive to keep a continuous picture of the state of the current spare parts, materials, and equipment inventory. At present the CMMS is not used for inventory control. Inventories of spare parts, materials, and equipment are kept manually by the contract operator.

3.3 Vendor Services

The contract operator maintains an up-to-date list of vendors and suppliers able to furnish all spare parts, materials, and equipment required by the plant. On-call arrangements are also in place with several contractors that can provide O&M assistance if needed. Having access to and good relations with a wide variety of outside vendors is an operational necessity. Complete records are kept on all vendors whose products and services are required to operate and maintain the plants. Detailed vendor contact information is maintained on a master list. Wide variety of suppliers, repair service companies, and other businesses are available to provide the goods and services required by the plants.

3.4 Management of Critical Spare Parts

Critical spare parts required for the WWTPs and pump stations have been informally classified by the contract operator. Spare parts that have been identified as critical are maintained in inventory at all times. For the WWTPs, the critical operations systems are the influent and effluent pump stations, the chlorine disinfection system, emergency lighting, and their associated electrical equipment. These items of equipment must be in operation at all times to keep wastewater flow moving through the plant. Due to normal built in equipment redundancies, all other plant processes and equipment are considered semi-critical or noncritical. An excerpt of an inventory master list for critical spare parts used by the contract operator is shown on Table 3-1.

Table 3-1
Jackson Contract Wastewater Operations
Critical Spare Parts Inventory

Item No.	Item Name	Size/Type	Quantity In Stock	Item No.	Item Name	Size/Type	Quantity In Stock
48KV14	Breaker locks		25	41ZY85	Jumper box		1
15Y515	Breaker locks		25	25KO43	Strap		2
6F457	Panel mount holder		10	30HO60	Strap		2
1CZ43	Panel fuse holder		10	25KO39	Strap		2
1CL85	Fuse 250 VAC	1 amp	2	1ED69	Cable cutters		1
1CM05	Fuse 250 VAC	3 amp	2	2VJ50	Saw blades		2
1CM13	Fuse 250 VAC	5 amp	2	45JO36	Harness		1
1CM18	Fuse 250 VAC	8 amp	2	5EFF2	Battery		12
1CL94	Fuse 250 VAC	10 amp	2	2DCW2	Handi box		15
1CL95	Fuse 250 VAC	12 amp	2	2DCW1	Handi box		15
1CL96	Fuse 250 VAC	15 amp	2	5VYL6	Wire nut		1
1CM03	Fuse 250 VAC	20 amp	2	6VG30	Wire nut		5
1CM10	Fuse 250 VAC	30 amp	2	6VG29	Wire nut		5
4ZCK2	Fuse 500 VAC	1 amp	10	6ZEH5	Terminal strip		12
4ZCK9	Fuse 500 VAC	2 amp	10	22CZ38	Crimper	Dalhart	1
4ZCL5	Fuse 500 VAC	3 amp	10	483A46	Drill	Dalhart	1
4ZCL8	Fuse 500 VAC	4 amp	10	55NR56	Fluke 107	Dalhart	1
4ZCN1	Fuse 500 VAC	5 amp	10	24C363	Lug		25
4ZCN3	Fuse 500 VAC	6 amp	10	24C326	Lug		25
4ZCN5	Fuse 500 VAC	7 amp	10	24C366	Lug		25
4ZCN6	Fuse 500 VAC	8 amp	10	24C290	Lug		25
4ZCN8	Fuse 500 VAC	10 amp	10	24C990	Lug		25
4ZPC1	Fuse 500 VAC	14 amp	10	29YK64	Lug		25
4ZCP3	Fuse 500 VAC	20 amp	10	55HD80	Breaker locks		25
4ZCP4	Fuse 500 VAC	25 amp	10	55HD81	Breaker locks		25
4ZCP5	Fuse 500 VAC	30 amp	10	55HY48	Breaker locks		25

4.0 Solids Management

The contract operator has in place procedures for storage, handling, and processing of sludge from the three wastewater treatment plants. The solids management procedures, schedules, and standard practices are described in this section.

4.1 Sludge Sources

Each of the WWTPs produces sludge that must be properly managed. The sludge streams consist of:

- Presidential Hills WWTP – The 0.75 MGD sequencing batch reactor plant produces waste activated sludge that is conveyed to the Savanna WWTP for processing.
- Trahon/Big Creek WWTP – The existing 4 MGD oxidation ditch plant produces waste activated sludge which is trucked in liquid form to the Savanna WWTP for processing. Current flows to the plant average about 2 MGD. About 6,500-gal, or one truck load, of WAS is hauled to the Savanna plant daily.
- Savanna WWTP – Sludge is generated at the Savanna plant from two main sources:
 1. Waste activated sludge – Currently averaging about 900,000 gal/day of 1.4% secondary sludge for an average plant flow of about 45 MGD. This plant does not have primary clarifiers.
 2. Storm cell storage – Any excess wet weather flow diverted to the storm cell flow equalization basins for temporary storage contains some solids. Over time these solids will accumulate in the storm cells and will require removal. A project to remove sludge from the Savanna WWTP storm cells was completed in April 2014.

As noted above, all wastewater sludge generated in the City of Jackson and contributing satellite communities is centrally handled at the Savanna WWTP.

4.2 Waste Activated Sludge

The Savanna WWTP is a conventional activated sludge plant without primary clarifiers. A portion of the waste activated sludge must be removed from the process daily. The WAS is sent to aerobic digesters to allow some solids reduction through destruction of a portion of the volatile solids. In the digesters, the sludge is further thickened by intermittent cycles of settling and decanting of supernatant. From the digesters, the sludge flows to two gravity sludge thickeners to provide additional solids concentration. Thickened WAS is then pumped to a sludge holding tank. Feed pumps transfer the thickened sludge to belt filter presses where polymer is added and the sludge is dewatered. After dewatering, the sludge is hauled to various agricultural tracts and then incorporated in the subsoil. A schematic of

the sludge processing operation is shown on Figure 4-1. A copy of the Savanna Street WWTP Sludge Management Plan is provided in Appendix B.

A major upgrade to the plant's dewatering capability will be performed as part of other plant improvement needs described in the CPE report. Currently, the dewatering equipment is operated seven days/week, often 24 hours/day. There are three dedicated dewatering operators responsible for operating and maintaining the equipment. These operators are assisted by the shift operators after hours and as needed. Management is provided by a full-time Dewatering/Land Application Supervisor. Dewatered sludge hauling and land application services are provided by a private contractor.

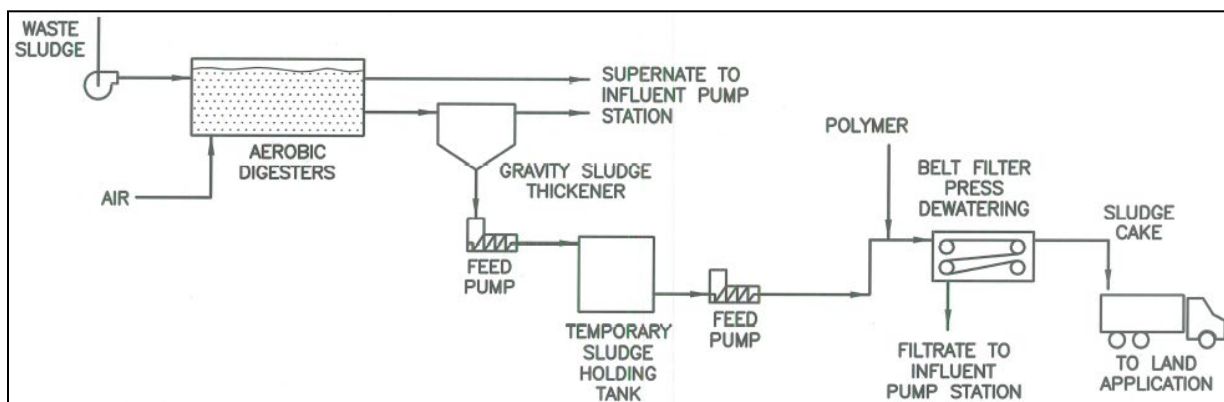


Figure 4-1
Savanna Street WWTP Solids Handling Schematic

4.3 Storm Cell Sludge

During periods of high wastewater flows, excessive flow beyond the main plant treatment capacity is diverted to the storm cell flow equalization basins. These three cells have a combined storage capacity of 171 MG. A 100 MGD storm water pump in the influent pump station is used to divert the flow. Additionally, a second diversion point to the storm cells can be used for flows from the Rankin County force main. After peak flows recede, a return line from Cell 3 is used to return stored flow to the West Bank Interceptor for treatment by the plant. Arrangement of the three storm cells is shown on Figure 4-2.

The contract operator has developed a Standard Operating Procedure for management of wet weather flows and the storm cell diversion process. The Savanna Street WWTP High Flow Plan is included in Appendix C.

With successive diversions of excess wet weather flows, sludge is slowly accumulating in the storm cells over time. A project to remove accumulated sludge from the storm cells was completed in 2014. The storm cell sludge levels are monitored by the contract operator on an annual basis. A detailed sludge survey to measure and quantify sludge buildup in the storm cells will be completed in 2021. Results of the survey will be used to assess the degree of solids accumulation and determine when another cleaning project will be needed.

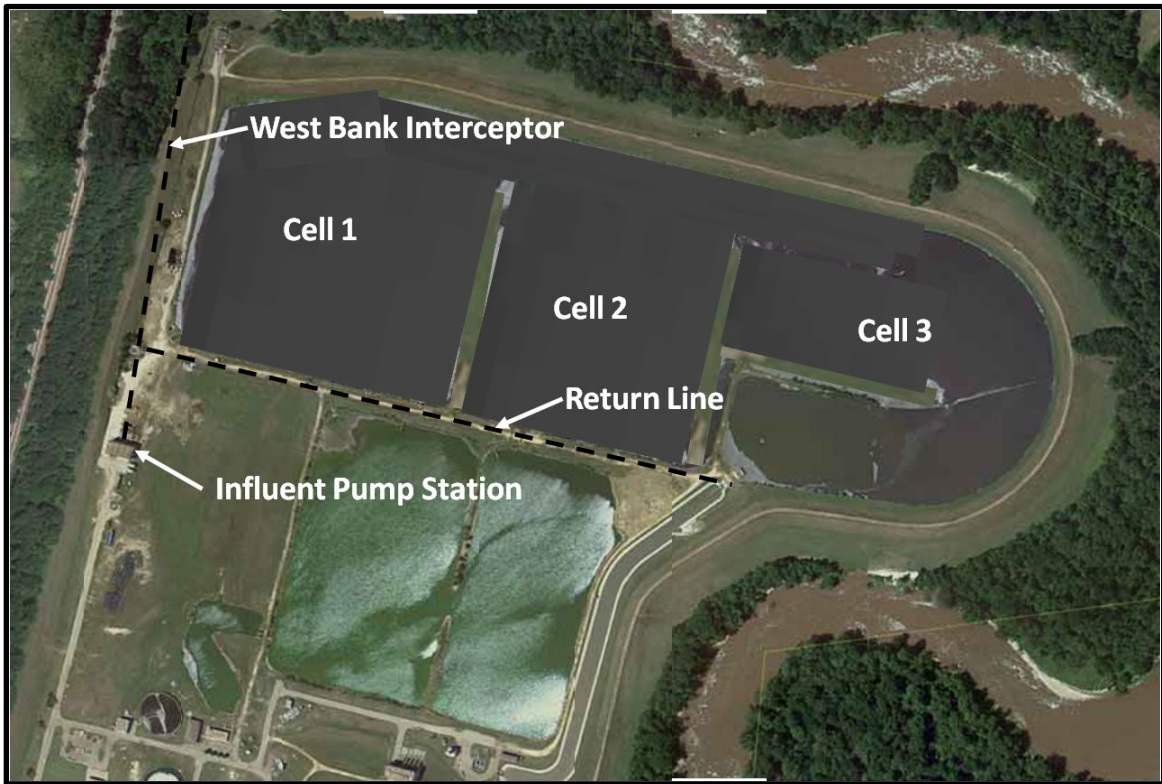


Figure 4-2
Savanna Street WWTP Storm Cells

5.0 Preventive Maintenance Program

The contract operator has an active a Preventive Maintenance Program in force for the wastewater treatment plants and pump stations operated and maintained for the City of Jackson. The purpose of the PM program is to provide proactive preventive and predictive maintenance to minimize required corrective maintenance. The contract operator's Preventive Maintenance Program is described in this section.

5.1 O&M Staffing and Resource Commitments

O&M Staff Organization

The contract operator has 40 full time positions assigned to operations of the WWTPs and pump stations. This includes 13 operations staff assigned to the Savanna WWTP for daily three shift operations, and three full time operators for the two smaller plants. There is also a sludge dewatering supervisor assigned and three dewatering equipment operators. Sludge hauling and land application are performed by a private contractor. Current staffing levels are summarized in the contract operator's monthly report to the City in Appendix A. The staffing organization chart is shown on page 7 of the monthly report.

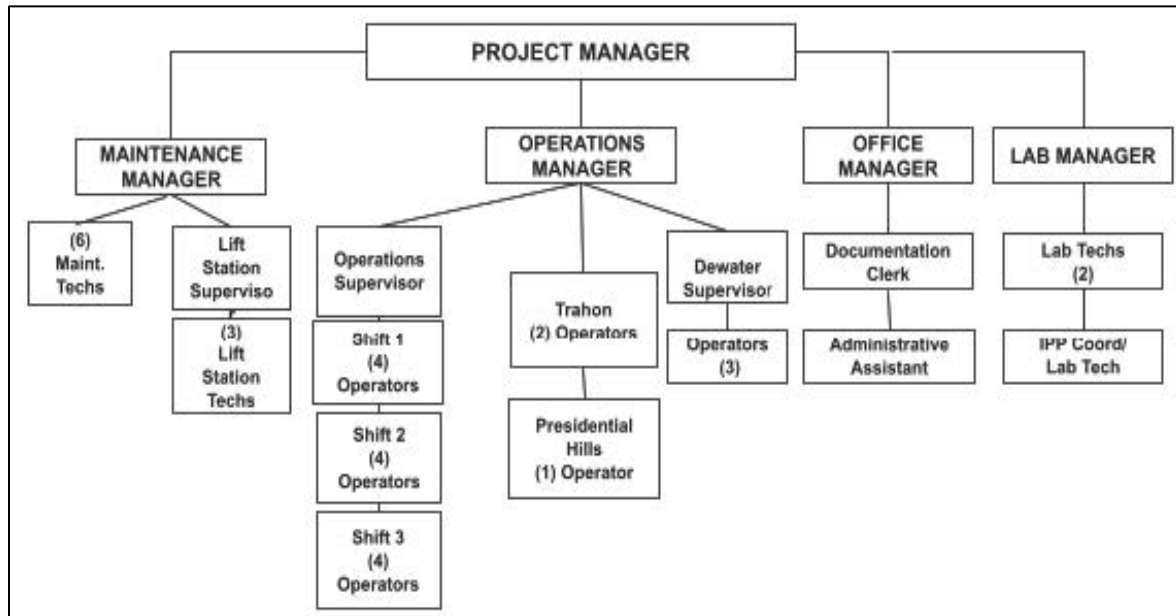
The contract operator has a single maintenance department responsible for maintaining the City's three wastewater treatment plants and all of the pump stations. The department has 11 full time maintenance positions. These individuals are responsible for conducting all PM activities required on the electrical, mechanical, and physical facilities and equipment. Performing PM is an integral part of their job, and is a defined role in the maintenance staff job descriptions.

An organization chart for the contract operator O&M staff is shown on Figure 5-1.

O&M Staff Training

All O&M staff receive initial (upon hire) and periodic refresher training on a variety of activities, knowledge, and skills required for them to perform their jobs successfully and safely. A calendar of the staff training program for the current year is shown on Figure 5-2.

Figure 5-1
O&M Staff Organization Chart



The organization chart does not include contract operator staff that are located elsewhere and work intermittently at the plant, such as Environmental Health and Safety staff. There are also additional staff that perform routine functions as either temporary staff or by staff of subcontractors performing O&M functions for the contract operator.

Figure 5-2
Contract Operator Training Schedule



2021 Veolia FBS/MW EHS Training Calendar

Month	Safety Topic	Notes
1st Quarter		
January Online – JJK/VNAU	1) HazCom: What You Need to Know OSHA Annual	Haz Com for all employees. Brief employees on site SDS locations and types of HazMat labeling systems used onsite
February Online – JJK/VNAU	2) Housekeeping & Maintenance Lockout/Tagout: Put a Lock on Hazardous Energy OSHA Annual	Laboratory Chemical Hygiene Plan, where applicable - annual review, certification, and training For all plant/distribution employees. Review Site Program Changes - e.g., new equipment or changes to Energy Control Procedures. Recommend review of Veolia's Global High Risk Management "Control of Hazardous Energy" Standard with employees.
March Online – JJK/VNAU	1) Fire Prevention & Response 2) Fire Extinguisher Use Both OSHA Annual	All employees must take 'Fire Prevention and Response.' Employees designated to use Fire Extinguishers (e.g., Hot Work Fire Watch) must also take 'Fire Extinguisher Use.' Optional to have training provided by outside vendor for hands-on training in lieu of JJK Fire Extinguisher Use
2nd Quarter		
April Online – JJK/VNAU	Confined Spaces & Permit Spaces OSHA Annual	For all plant/distribution employees. Review site PRCS program changes, affected spaces etc. Recommend review of Veolia's Global High Risk Management "Confined Spaces" Standard with employees.
May Online – JJK/VNAU	1) Safety Showers and Eye Washes 2) Hazardous Substances: Incidental Spill Response	For all plant employees.
June Online – JJK/VNAU	1) Heat Stress 2) Hand and Power Tool Safety	Heat Stress for all employees. Hand and Power Tool Safety for plant/distribution employees.
3rd Quarter		
July Online – JJK/VNAU	1) Compressed Gas Cylinders 2) Hot Work: Safety Operations Training	Hot work training for employees who conduct welding, cutting, grinding or other Hot Work operations and/or for employees who act as Fire Watch. Recommend review of Veolia's Global High Risk Management "Hot Work" Standard with employees.
August Online – JJK/VNAU	Personal Protective Equipment: Employee Essentials Includes OSHA Annual Hearing Protection PPE for Hearing Conservation Program sites	NOTE: Sites under a Hearing Conservation Program must also conduct annual audiometric testing and evaluation for STS. Applicable to admin staff who enter plant work areas.
Sept Online – JJK/VNAU	1) Respiratory Protection OSHA Annual 2) Asbestos Awareness	Respiratory Protection training only for affected workers who must don respirators as part of their work requirements. Asbestos Awareness only for sites that have Asbestos Containing Materials (ACM) or Presumed ACM.
4th Quarter		
October Online – JJK/VNAU	1) Material Handling Safety 2) Cranes Safety for General Industry	Recommend review of Veolia's Global High Risk Management "Lifting Operations" Standard with employees.
November Online – JJK/VNAU	1) Cold Stress 2) Winter Safety	For all employees.
December Online – JJK/VNAU	1) Bloodborne Pathogens: Safety in the Workplace OSHA Annual 2) Office Safety	For all employees. Not required if employees receive BBP training as part of first aid training. Office Safety only applicable to office workers.

5.2 Preventive Maintenance Program

Operation and maintenance of the wastewater treatment plants and all pump stations is the responsibility of the contract operator. The City still provides maintenance services for the gravity sewers, but essentially all mechanical and electrical equipment maintenance in the system is performed by the contract operator.

PM Management in CMMS

The Lumin computerized maintenance management system can be used as an aid in executing maintenance activities. The Lumin CMMS incorporates the following features:

- A preventive maintenance (PM) scheduling module with the flexibility to control when work orders should be triggered. For triggered PM's, the work order includes procedures, parts, personnel assignments, skill/labor-code requirements, and other required data. Information displayed on the work order is only what is actually needed to complete the assignment.
- A work order management module that allows tracking of time, materials, schedules, dates, and responsiveness.
- A supervisory control and data acquisition (SCADA) interface that permits operators to view upcoming and open work orders and full details of work order history without leaving their operating consoles.
- The SCADA interface also allows run time-based preventive maintenance work-order triggers. The interface can also generate condition- and predictive-based orders that incorporate any combination of sensors (vibration, temperature, or pressure) or equipment usage being monitored.
- Parts tracking and management functionality that identifies, allocates, and tracks replacement parts required for repetitive tasks. Preferred vendors, blanket purchase orders, and procurement contracts can be managed from within the system. Extensive item properties can be tracked..
- Web browser-enabled architecture with complete supply chain connectivity. This allows the software to interface via the Web or other connectivity formats with all internal and external systems at key touch points where information exchange is critical.

The contract operator is not currently utilizing the CMMS to plan, schedule, and document PM activities. Work Orders to perform PM are generated and tracked manually by the maintenance staff. The contract operator intends to begin utilizing the CMMS in the future, initially for Work Order generation and documentation.

Guidance to Managers and Field Personnel

The contract operator provides appropriate guidance to managers and field personnel for scheduling and performing preventive maintenance activities on treatment plant equipment. The guidance consists of:

- Identification of all systems and equipment where PM is required.
- Itemization of required PM tasks for each item of equipment.
- Instruction in equipment, tools, and materials required to complete PM work.
- Training necessary to complete PM activities.
- Instruction on documentation of PM performed to track PM history.

Preventive Maintenance Practices

Preventive Maintenance is performed on all plant equipment where it is identified as being required. Standard Operating Procedures (SOPs) have been developed for all major maintenance activities. Examples of the SOPs used by the contract operator are shown on Table 5-1. Checklists have also been developed to ensure that all scheduled PM activities are routinely completed. An example PM checklist for lift stations is included in Appendix C.

The contract operator maintains a library of equipment O&M Manuals furnished by the various equipment manufacturers. The manufacturer's O&M instructions are followed in scheduling and performing maintenance tasks, including preventive maintenance. Maintenance staff are instructed in the skills, tools, and procedures necessary to perform the preventive maintenance activities. The training also covers procedures for recognizing various indicators that the equipment is experiencing other problems, and that corrective maintenance is required.

Table 5-1
Savanna Wastewater Treatment Plant
List of Standard Operating Procedures

No.	SOP
1	Savanna High Flow Procedures
2	Take Headworks Bar Screen Out of Service
3	Take 4160V Blower Offline
4	Take 4160V Switchgear Offline
5	Remove RAS Pump
6	Replace Gate Controller
7	Take Blower Out of Service
8	Waste Digested Sludge/Wast Activated Sludge Pump Operation
9	Grit Chamber Traveling Bridge Operation - Trahon
10	Booster Pump Operation - Trahon
11	Bar Racks Hoist Replacement
12	RAS PS#2 Pump & Control Panel Replacement
13	Light Bulb Replacement
14	Water Supply & Injector Pump Replacement - Trahon
15	Take Clarifier Out of Service
16	Demo of Existing Conduits/Installation of New Conduits
17	Fine Screen Escalator Operation - P Hills
18	Dewatered Sludge Transfer Auger Operation
19	Water Supply Strainer O&M
20	Electrical Fuse Replacement
21	Emergency Lighting
Note: Each SOP includes a Job Safety Analysis, LO/TO SOP, and Confined Space Entry SOP where required.	

5.3 Predictive Maintenance

In addition to normal PM, the contract operator performs certain Predictive Maintenance activities. Predictive Maintenance is a process used to identify degree of wear and useful life remaining of equipment components and parts that otherwise show no outward sign of failure. An example is the annual thermographic inspection of control panels and motors as shown on Figure 5-3. Thermographic inspection involves infrared scanning of electrical control panels and motors, as well as other components such as equipment bearings, to detect heat buildup. If a hot spot is identified and determined to be excessive, more detailed investigation will be performed and required corrective maintenance will be scheduled.

Figure 5-3
Control Panel Thermographic Inspection Results



5.4 Corrective Maintenance

A good preventive maintenance program will minimize equipment malfunctions that result in the need for unscheduled repairs, referred to as corrective maintenance¹. While Preventive Maintenance and Predictive Maintenance programs are in place, corrective maintenance actions are periodically required to perform needed repairs on equipment and systems. Procedures used to perform corrective maintenance, when it is needed, are described below.

Repair or Replace Decision

For each major item of equipment requiring repair, a decision is first made whether to perform the repair or replace the item with new equipment. The contract operator follows a standard procedure to evaluate whether to repair or replace the equipment. The decision criteria used are:

- Review equipment maintenance history.
- Consider age, number of failures, maintenance labor hours expended, and past costs associated with equipment repairs.
- Consider availability and lead time for replacement parts.
- If size is less than 5 HP, the motor should be replaced.
- If above guidelines suggest that repair may be a good option then request quotes for repair as well as replacement.
- If repair cost is more than 50% of the replacement cost, estimate the years of useful life for the repair and replace options. Determine the annual cost for each option using the available quotes and select the lowest annual cost option.
- If repair cost is less than 50% of the replacement cost, proceed with repair.

¹ 'Reactive maintenance' is the term used in the Consent Decree.
CMOM Report v.2

Work Order Procedures

When corrective maintenance needs are identified, a Work Order is generated by the O&M staff. --of Corrective Maintenance Work Orders are performed by the maintenance manager. For all Work Orders, whether they be preventive, predictive, or corrective, Purchase Orders for outside repair services, parts not in inventory, or other outside purchases needed to complete the corrective maintenance actions are issued promptly in order to complete the repair as soon as possible. Example Work Orders are included in Appendix C.

Maintenance Tracking System

Wastewater treatment plant equipment inspection and maintenance activities are documented by the maintenance manager, who is also responsible for maintenance tracking and record keeping. As equipment maintenance activities are completed by the O&M crews, a work order completion log is generated. Work order completion status is included in the monthly report. An example status report of preventive maintenance and corrective maintenance work orders for a 12 month period is shown on Figure 5-4.

5.5 Emergency Maintenance

Procedures are in place by the contract operator to ensure that failures of equipment or loss of power during emergency situations are corrected in a timely fashion. These procedures were developed to limit the downtime of the equipment or facility during the abnormal conditions. Examples are the Wastewater Treatment Plant Power Outage SOP and the North Gate Emergency Generator Start-Up SOP included in Appendix C.

Figure 5-4
Savanna Wastewater Treatment Plant
Preventive and Corrective Maintenance Status Report

Savanna	PM	PM	CM	CM
Month	Generated	Completed	Generated	Completed
May-21	30	20	5	1
Apr-21	4	30	3	1
Mar-21	43	38	23	26
Feb-21	25	24	19	9
Jan-21	24	24	7	13
Dec-20	60	60	5	11
Nov-20	35	35	7	5
Oct-20	37	37	10	8
Sep-20	32	32	1	6
Aug-20	23	23	13	14
Jul-20	29	29	9	6
June-20	53	49	3	6

5.6 Operation and Maintenance Program Summary

The City of Jackson currently has in place a satisfactory maintenance program for its wastewater treatment plants implemented by its professional contract operator. The contract operator has a fully qualified and trained staff assigned to operate the plant and perform maintenance functions. The only major change needed to the current O&M program is for the contract operator to better utilize the capabilities in their CMMS platform for scheduling and tracking Preventive Maintenance activities and Work Orders. The contract operator has stated their intent to work towards this objective. Overall, the plant has been as well operated and maintained as feasible considering the existing limitations in its treatment and flow handling capabilities, which should be alleviated when the current program of improvements is completed.

Appendix A

Jackson Wastewater Treatment Facilities Monthly Report for May 2021



May 2021



**MONTHLY REPORT
CITY OF JACKSON, MS
WASTEWATER TREATMENT FACILITIES**

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1.0 Administration

May 2021 Analysis of AABE/FBE/ABE Results

- FBE participation for the month of May 4.03% May, 2021
- AABE participation for the month of May 14.37 % May, 2021
- ABE participation for the month of May 0.00% May, 2021
- Overall participation for the month of May 18.398 % May, 2021

Total dollars available for which Minority vendors could compete within the month of May 2021= \$709,427.57

Total dollars spent through Minority vendors within the month of May 2021 = \$130,522.32

MBE vendors used in MMRCM projects are also included in the total numbers.

(See attached image of MBE analysis results below) Labeled in the appendix as Figure 1.1A, Exhibit A.)

Project News and Highlights May 2021

Veolia continued to implement COVID-19 related actions as determined by the City, State, and Corporate initiatives.

Veolia Monthly Meeting for May 2021 was held. In attendance was Lewis Parrish, Warren Hudson, Shannon Moore, and Terry Duffy.

Project Support By Veolia (in addition to local staff)

Brad Davis, Tech Support; Preston Cloke, VP Business Support; Jack Morrison, Sr. HR Business Partner; Veolia North America South LLC Division

Environmental Health and Safety

May's safety training consisted of Safety Showers and Eyewash and Hazard Substance – Incidental Spill Response.

Employees working around corrosive substances, i.e. Chlorine and Sulfur Dioxides may have some elements of exposure when performing gas cylinder gases out or performing preventive maintenance on the disinfection systems. Consequences of exposure can range from eye and skin irritation to inhalation. Because of this, OSHA requires employers to provide suitable facilities, such as emergency showers and eyewashes, for immediate employee use while at work.

Course objectives were:

- Explain the purpose of emergency eyewashes and showers, including when and how to use them
- Familiarize employees with the recognition and use of emergency eyewashes and showers and ways to ensure quick access to them.
- Describe the type and temperature of the flushing fluid used within emergency eyewashes and showers
- Identify ways to ensure immediate access and use of emergency eyewashes or showers

June's Hazard Recognition: Maintaining Electrical Control Rooms.

All sites are to inspect their respective electrical control rooms to ensure no combustible material exists. The Jackson Safety committee's assignees will evaluate hazards by identifying and record evidence of:

- Panels are not blocked.
- There are no combustible materials such as paper or cardboard.
- Wall penetrations for cables, conduits and piping are sealed. (Note: Use a non-combustible sealant versus spray foams which can be highly flammable)

Covid-19 Workplace Plan: The company is updating its current policy and procedures to reflect some updates per CDC's recommended guidelines. The major update will allow employees, visitors and contractors who voluntarily provide proof of having received a COVID-19 vaccination (fully vaccinated) to no longer be required to wear masks in the workplace. For those who haven't or elect not to voluntarily show proof must continue to wear masks, social distancing and washing your hands.. The company is always monitoring guidelines provided by CDC. These precautions are still considered the best way to protect one another until we can move past this crisis.

Activities scheduled and unscheduled by EHS included:

- All confined spaces areas and potential new areas are being reviewed and part of inventory, classification and any new hazards. Areas include those at all three locations, Savanna, Presidential Hill, Trahon and Lift Stations. Updates will be documented and referenced as part of review training.
- A pre-planning meeting was held on site with representatives from Jackson Fire Department to explore requirements and timing to administer a mock emergency drill. The goal is to identify areas and resources to properly respond to a chemical leak and/or continued space rescue situations. Tentative plans to schedule drill during the end of the 3rd quarter.
- PSM/RMP Compliance audit follow-up continues.

- Training – MTD approximately 33 hours of employee safety participation time was experienced.

June's training will focus on "Heat Stress and Hand and Power Tool Safety".

Veolia-COJ Project Accident Summary

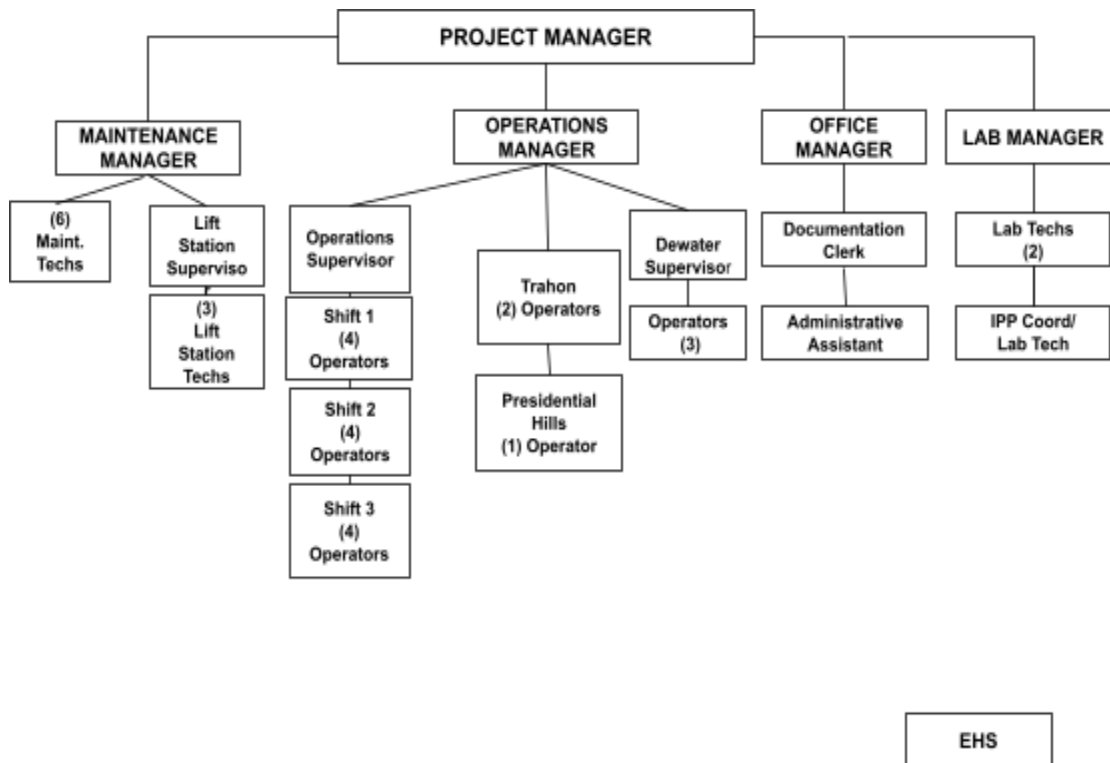
Parameter	May 2021	Year To Date
Recordable Accidents	0	1
Lost Time Accidents	0	0
Restricted Duty Days	0	0

Veolia - Proactive Safety Measures Summary

Proactive Safety Measures Report	May 2021	Year To Date
Reported Unsafe Condition/Behavior	14	60
Job Observations	0	0
Total Submissions	14	60

Organizational Information

Veolia North America
Jackson MS Staffing
May 2021



The above organizational information describes Veolia's general approach to staffing the Jackson MS Project. It does not include additional staff that perform routine functions as either temporary staff or the staff of Veolia subcontractors performing O&M functions within the current scope of work. Staff of contractors performing work under the Repair and Maintenance Limit Account or MMRCM projects are not counted toward the general staffing organization.

May, 2021 - Four (4) Operations positions, Bio Solids Supervisor open and two (3) Maintenance positions open. Currently advertising and interviewing.

2.0 West Rankin Flow Data

West Rankin Year to Date Flow in MG

January 2021	February 2021	March 2021	April 2021	May 2021	June 2021
271.55 MG	265.33 MG	319.86 MG	269.82 MG	253.15 MG	

July 2021	August 2021	September 2021	October 2021	November 2021	December 2021

3.0 Laboratory

Permit tests

Presidential Hills WWTP is in compliance for the month of May. 9 violations are recorded for Savanna WWTP and 1 violation for Trahon WWTP. Savanna WET testing for the second quarter is scheduled for the week of June 13, 2021. Savanna, Trahon, and Presidential Hills Hach WIMS lab data are validated. Net DMRs will be entered once Hach WIMS results are completed.

Number of Violations for May 2021

Plant	Number of Violations
Savanna WWTP	9
Trahon WWTP	1
Presidential Hills WWTP	0

Savanna May 2021 violations (draft)

SN	Parameter	Permit limit	Result
1	Flow, MGD monthly	46 MGD	51.46 MGD
2	CBOD, mg/L weekly	10.5 mg/L	10.9 mg/L
3	Ammonia, mg/L weekly	3.0 mg/L	4.5 mg/L
4	Fecal coliform, CFU/100 ml weekly	400 CFU/100 ml	1,933 CFU/100 ml
5	CBOD, lbs/day monthly	2,687 lbs/day	2,917 lbs/day
6	CBOD, lbs/day weekly	4,031 lbs/day	6,084 lbs/day
7	Ammonia, lbs/day monthly	768 lbs/day	1,000 lbs/day
8	Ammonia, lbs/day weekly	1,152 lbs/day	1,685 lbs/day
9	Ammonia, lbs/day weekly	1,152 lbs/day	2,566 lbs/day

Trahon May 2021 violations

SN	Parameter	Permit limit	Result
1	Zinc, mg/L weekly	0.065 mg/L	0.249 mg/L

Additional Tests

Trahon Influent composite is monitored for Copper three times a week. Trahon Effluent Grab is also analyzed for Ammonia as a part of the process test. North Gate, Caney Creek, and West Rankin composite samples are analyzed for CBOD, TSS, Ammonia, Total Nitrogen, and Total Phosphorus for Savanna Influent characterization. Headworks samples are analyzed for in-house tests including pH, Alkalinity, TSS, Ammonia, and CBOD in order to monitor the load coming into the plant. A grab sample from Presidential Hills is analysed once a week for TSS, Ammonia, BOD, and COD as a part of effluent monitoring throughout the month. Darpro (Ammonia, TSS and COD) and Double G (pH) industrial samples are also analyzed every week for monitoring purposes for Trahon.

IPP Program:

Industrial Pretreatment Tasks for May 2021

- On May 3, 2021 Veolia set up a composite sample at Nucor Steel in Flowood MS. The sample was set up at 10:00 a.m. and collected May 4, 2021 10:10 a.m. Alex Trimble is the Maintenance Technician and contact person for this industry.
- On May 5, 2021 Veolia set up a composite sample at Armstrong in Jackson MS. The sample was set up at 10:25 a.m. and collected May 6, 2021 10:35 a.m. Daryl Allegrezza is the Quality Control Manager and contact person for this industry.
- On May 12, 2021 Veolia set up a composite sample at Rockett Inc. in Flowood MS. The sample was set up at 10:25 a.m. and collected May 13, 2021 10:35 a.m. Eddie Courtney is the Maintenance Supervisor and contact person for this industry.
- On May 13, 2021 Veolia set up a composite sample at Precoat Metals in Byram MS. The sample was set up at 9:25 a.m. and collected May 14, 2021 10:10 a.m. Brian McDonaled is the Operating Manager and contact person for this industry.
- On May 18, 2021 Veolia set up a composite sample at Penske in Jackson MS. The sample was set up at 11:25 a.m. and collected May 19, 2021 10:45 a.m. Michael Poole is the Branch Service Manager and contact person for this industry.
- On May 25, 2021 Veolia set up a composite sample at Process Engineering in Jackson MS. The sample was set up at 10:40 a.m. and collected May 26, 2021 10:20 a.m. Leon Smith Maintenance Manager and contact person for this industry.

4.0 Savanna Street Wastewater Treatment Plant

There were 9 NPDES permit violations for the month of May. The total effluent flow treated by processes throughout the mechanical plant equated to 1,368 MG and 9 days of bypass flow for May which equated to 227.22 MG.

Refer to supporting data at the end of the document.

Savanna Street Wastewater Performance Report (CMOM Related)

May 2021

Parameter 001	Permit Limit	Monthly Performance
Flow- Effluent Avg. (mgd)	46	51.46
CBOD5– Influent Monthly Avg (mg/l)	Report	111
CBOD5 – Effluent Max. Weekly Avg. (mg/l)	30	10.9
CBOD5 – Effluent Monthly Avg. (mg/l)	20	5.8
CBOD5 % removal	85%	95%
TSS – Influent Monthly Avg (mg/l)	Report	223
TSS – Effluent Max. Weekly Avg. (mg/l)	45	24
TSS – Effluent Monthly Avg. (mg/l)	30	19.8
TSS % Removal	85	91
Ammonia – Influent Monthly Avg (mg/l)	Report	12
Ammonia – Effluent Max. Weekly Avg. (mg/l)	5.0	4.5
Ammonia – Effluent Monthly Avg. (mg/l)	3.3	1.7
pH – Monthly Min.	6.0	6.7
Total Cl2 Residual – Maximum	0.096	NODI=B
Fecal Coliform – Monthly Geometric Mean (CFU/100 ml)	200	178

CMOM Activities

CMOM Performance Measures May 2021	
NPDES Permit Violations	9
Capacity Related Overflows (Lift Station)	0
Maintenance Related Overflows	0
Operations Related Overflows	0
Number of Cave-Ins	0
Pump Station Failures	0



Date: May 18, 2021
Mrs. Bailey Long
Environmental Compliance & Enforcement Division
Office of Pollution Control
Post Office Box 2261
Jackson, MS 39225

NPDES Permit No. MS002429

Mrs. Long,

This letter is sent by Veolia North America as contract operator on behalf of the City of Jackson. The most recent Savanna Street Bypass was started on Wednesday, May 5th, 2021, at 8:23 AM due to rain and diverted flows.

On Sunday 5/1/21 the level in the storm lagoon at Savanna WWTP was 8.16 feet. On 5/2/21 Savanna received 0.45 inches of rain. This small but impactful rain event affected our ability to recover diverted flow from the storm lagoon. On Tuesday 5/4/21 Savanna received another 0.56 inches of rain. This rain event caused Savanna to divert some incoming flows into the lagoon. Diverted flows from Savanna, along with West Rankin flows filled the lagoon to 10.0 feet. Wednesday morning 5/5/21, the decision was made to bypass.

Date:	Cell #3 Level (Ft)	West Rankin (MGD)	Recovery (MGD)	Rainfall (In)
5/1	8.16	6.98	7.0	0.00
5/2	8.24	9.31	5.0	0.45
5/3	8.50	7.97	8.0	0.00
5/4	8.58	13.51	3.0	0.56
5/5	10.00	8.73	0.0	0.00

The bypass was stopped on May 7th, 2021 at 5:00 PM. The total bypass flow discharged was 72.83 MG. Recovery from the lagoon was started as soon as possible. The table contains laboratory values for parameters that are exceeded for the month of May 2021 (5/2/21 - 5/7/21).

SN	Parameter	Permit limit	Result
1	Ammonia, lbs/day (5/2/21 - 5/7/21)	1,152 lbs/day	1,685 lbs/day

Regards,

Warren Hudson

Warren Hudson



Date: May 26, 2021
Mrs. Bailey Long
Environmental Compliance & Enforcement Division
Office of Pollution Control
Post Office Box 2261
Jackson, MS 39225

NPDES Permit No. MS002429

Mrs. Long,

This letter is sent by Veolia North America as contract operator on behalf of the City of Jackson. The most recent Savanna Street Bypass was started on Wednesday, May 17th, 2021, at 9:53 PM due to rain and diverted flows.

On Monday 5/17/21 Savanna received 0.96 inches of rain. This rain increased incoming flows from Jackson hampering our ability to recover from the storm lagoon. Diverted West Rankin flows into the storm lagoons increased, causing it to fill quickly. Monday evening, Savanna St needed to divert flow to the storm lagoon in order to maintain control within the plant. The lagoon reached a level of 10 feet Monday night and the decision was made to bypass.

On Tuesday 5/18/21 Savanna received an additional 2.63 inches of rain. This rain along with planned plant shutdowns Tuesday and Wednesday extended the duration of the bypass. The bypass was stopped on May 22nd, 2021 at 6:45 PM. The total bypass flow discharged was 154.39 MG. Recovery from the lagoon was started as soon as possible. The table contains laboratory values for parameters that are exceeded for the month of May 2021 (5/16/21 - 5/22/21).

SN	Parameter	Permit limit	Result
1	Ammonia, mg/L	3.0 mg/L	4.5 mg/L
2	Ammonia, lbs/day	1,152 lbs/day	2,566 mg/L
3	Fecal coliform, CFU/100 ml	400 CFU/100 ml	1,933 CFU/100 ml

Regards,

Warren Hudson



Date: June 11, 2021

Mrs. Bailey Long

Environmental Compliance & Enforcement Division

Office of Pollution Control

Post Office Box 2261

Jackson, MS 39225

NPDES Permit No. MS002429

Mrs. Long,

This letter is sent by Veolia North America as contract operator on behalf of the City of Jackson. This is a summary of violations at the Savanna Street WWTP for May 2021. Savanna Street WWTP (MS0024295) had two bypasses for the month of May 2021, and recorded 9 permit violations consisting of Flow, MGD monthly, CBOD, mg/L weekly, Ammonia, mg/L weekly, Ammonia, lbs/day monthly, Fecal coliform, CFU/100 ml weekly and CBOD, lbs/day monthly.

The first bypass started May 5, 2021 at 8:23 a.m. On Sunday 5/1/21 the level in the storm lagoon at Savanna St WWTP was 8.16 feet. On 5/2/21 Savanna St received 0.45 inches of rain. This small but impactful rain event affected our ability to recover diverted flow from the storm lagoon. On Tuesday 5/4/21 Savanna St received another 0.56 inches of rain. This rain event caused Savanna to divert some incoming flows into the lagoon. Diverted flows from Savanna St, along with West Rankin flows filled the lagoon to 10.0 feet. Wednesday morning 5/5/21, the decision was made to bypass. The bypass ended May 7, 2021 at 5:00 pm.

The second bypass started May 17, 2021 at 9:53 p.m. On Monday 5/17/21 Savanna St received 0.96 inches of rain. This rain increased incoming flows from Jackson hampering our ability to recover from the storm lagoon. Diverted West Rankin flows into the storm lagoons increased, causing it to fill quickly. Monday evening, Savanna St needed to divert flow to the storm lagoon in order to maintain control within the plant. The lagoon reached a level of 10 feet Monday night and the decision was made to bypass. On Tuesday 5/18/21 Savanna St received an additional 2.63 inches of rain. This rain along with planned plant shutdowns Tuesday and Wednesday extended the duration of the bypass. The bypass was stopped on May 22nd, 2021 at 6:45 PM. The total bypass flow discharged for the month of May was 227.22 MGD. Savanna St received 6.23 inches of rainfall for the month of May 2021. West Rankin contributed 253.15 MGD to the stormcell for the month of May 2021. The

weekly violations that occurred caused exceedances for CBOD, lbs/day monthly, Ammonia, lbs/day monthly and Flow, MGD monthly. The table below contains laboratory values for all parameters that were exceeded for May 2021.

SN	Parameter	Permit limit	Result
1	Flow, MGD monthly	46 MGD	51.46 MGD
2	CBOD, mg/L weekly	10.5 mg/L	10.9 mg/L
3	Ammonia, mg/L weekly	3.0 mg/L	4.5 mg/L
4	Fecal coliform, CFU/100 ml weekly	400 CFU/100 ml	1,933 CFU/100 ml
5	CBOD, lbs/day monthly	2,687 lbs/day	2,917 lbs/day
6	CBOD, lbs/day weekly	4,031 lbs/day	6,084 lbs/day
7	Ammonia, lbs/day monthly	768 lbs/day	1,000 lbs/day
8	Ammonia, lbs/day weekly	1,152 lbs/day	1,685 lbs/day
9	Ammonia, lbs/day weekly	1,152 lbs/day	2,566 mg/L

Regards,



Warren Hudson

5.0 Trahon/Big Creek Wastewater Treatment Plant

The Trahon WWTP met BOD removal at 96% and TSS removal at 96% with a NPDES limit value of 85%. May 2021 total Effluent flow equated to 87.61 MG for the month.

Trahon/Big Creek Performance Review May 2021

Parameter	Permit Limit	Monthly Performance
Flow- Effluent Daily Avg. (MGD)	4.5	2.826
BOD ₅ – Influent Monthly Avg. (mg/l)	Report	137
BOD ₅ – Effluent Max. Weekly Avg. (mg/l)	15	7
BOD ₅ – Effluent Monthly Avg. (mg/l)	10	6
TSS – Influent Monthly Avg. (mg/l)	Report	173
TSS – Effluent Max. Weekly Avg. (mg/l)	45	9
TSS – Effluent Monthly Avg. (mg/l)	30	7
Ammonia – Influent Monthly Avg. (mg/l)	Report	13
Ammonia – Effluent Max. Weekly Avg. (mg/l)	3	0.10
Ammonia – Effluent Monthly Avg. (mg/l)	2	0.10
pH – Monthly Min.	6.0	7.3
Total Cl ₂ Residual – Maximum	0.011	ND
Fecal Coliform – Monthly Geometric Mean (CFU/100 ml)	200	19
Copper – Monthly Avg. (mg/l)	0.005	0.002

6.0 Presidential Hills Treatment Plant

All NPDES permit limits were met. The Presidential Hills WWTP met BOD removal at 98.9% and TSS removal of 97.8% with a NPDES limit value of 85%. May 2021 total Effluent flow equated to 9.76 MG for the month.

Presidential Hills Treatment Plant Performance Review May 2021

Parameter	Permit Limit	Monthly Performance
Flow- Effluent Daily Avg. (MGD)	0.75	.315
BOD ₅ – Influent Monthly Avg. (mg/l)	Report	234
BOD ₅ – Effluent Max. Weekly Avg. (mg/l)	9	2.6
BOD ₅ – Effluent Monthly Avg. (mg/l)	6	2.6
TSS – Influent Monthly Avg. (mg/l)	Report	398
TSS – Effluent Max. Weekly Avg. (mg/l)	45	9
TSS – Effluent Monthly Avg. (mg/l)	30	9
Ammonia – Influent Monthly Avg. (mg/l)	Report	59.2
Ammonia – Effluent Max. Weekly Avg. (mg/l)	2.25	0.1
Ammonia – Effluent Monthly Avg. (mg/l)	1.5	0.1
pH – Monthly Min.	6.0 – 9.0	6.7
Total Cl ₂ Residual / UV	0.011	UV Disinfection
E-Coli – Monthly Geometric Mean (CFU/100 ml) (CFU/100 ml)	126	16

7.0 Maintenance

Veolia conducted routine maintenance as part of our day-to-day lift station operations and plant maintenance. Activities completed during the month are summarized for the reporting month below.

- Pulled and removed rags from the Caney Creek flow meter (This is being done several times a month).
- Removed the old scum pump from the old RAS and installed a new scum pump system. .
- Pulled and removed rags from both WDS pumps.
- Repaired the discharge pipe connection flange on the west WDS pump.
- Pulled and removed rags from the northgate sampler pump. .
- Repaired the wash down and spray water line on clarifier #4.
- Removed and replaced lights in the admin building..
- Jetted the clarifier #4 scum tank drain line ...
- Jetted the bottom floor drains at the old RAS building.
- Installed a new sampler pump at Caney creek..
- Pulled and removed rags from the west WAS pump and piping.
- Repaired 3 de-watering exhaust fans ,weld broken supports and replaced belts.
- Repaired savanna property pole lights .
- Pulled and removed rags from the scum lift station at clarifier #5.

Trahan WWTP

- Removed rags from the booster water pumps for the Chlorine and SO2 feed. (This is a routine due to rags)
- Removed rags and cleaned out the Water Supply pumps to the booster pumps. (This is a rou
- Pulled and replaced the boost water supply pump on the belt filter press..
- Pulled and removed rags from the grit transfer bridge pump on the east bridge..
- Removed and replaced the belt on the belt filter press..

Presidential Hills WWTP

- Pumped rainwater out of the electrical manhole by the office (Monthly)
- Pulled and removed rags from the SBR#1 air supply valve..
- Pulled and removed rags from the level floats in SBR#1 and #2..
- Pulled and removed rags from the influent pump #3..
- Installed new access ladders and gates on both SBR's..
- Installed new battery back-up units for the scada system.

Equipment Status

Equipment Out of Service at Savanna

Raw pump #4 motor

Aeration Blower #3

New Effluent Screw pump #2, awaiting repair to input shaft and on the gearbox and lower screw bearing

Raw Sewage 54 inch valve stem broken

West Rankin Diverter valve awaiting replacement

Equipment Out of Service at Trahon

South Aeration Ditch

WAS pump station #1 pump

De-cantor valves at sludge holding tank

Trahon Influent pump station, Pump #2 and #4

Blower #2

Bar Screen #1, Influent pump station

Equipment Out of Service at Presidential Hills (none)

Lift Station Maintenance

The following stations were found to be underperforming and were full of rags or discharge clogged. Removed rags and verified to be working correctly.

Westside #2 LS-084. (Pump #1)

Brookhollow #2 (LS-012). (Pump #1 & Pump #2)

Amanda Lane LS-001. (Pump #1)

Whitehall (LS-092). (Pump #1)

Hickory Dr (LS027) (Pump #2

Westside #1 (LS084) (Pump #1)

YMCA #1 (Pump #1 & Pump #2)

Brookhollow #2 (Pump #1 & Pump #2)

Lift Stations that required cleaning of grease and debris.

YMCA #1 (LS-097)

Brookhollow #2 (LS-003)

Lift stations that needed electrical control components or electrical maintenance.

Westside # 1(LS084) Replaced Lead Float.
Lakeshore C (LS031) Replaced Start Capacitor for Pump #1.
Brookwood Estates (LS006) Replaced Alarm Light bulb.
Lakeshore D (LS032) Replaced alarm Battery.
Chasewood (LS012) Replaced Start Capacitor for pump #1

Lift stations that had to have repairs made.

Sylvan #2 (LS-074) Replaced Guide rails, discharge elbows, and check valves.

Lift stations that have new pumps

Duranville (LS-015) Pump #2

Veolia conducted routine maintenance as part of our day-to-day WWTFs and Lift Station operations/maintenance.

Activities completed during the last twelve months are summarized by each location

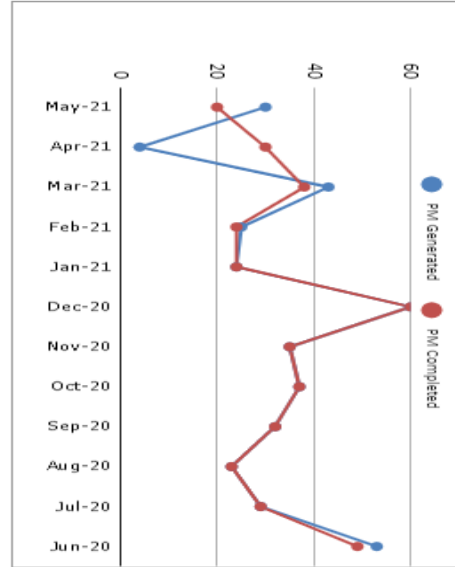
Savanna	PM	PM	CM	CM
Month	Generated	Completed	Generated	Completed
May-21	30	20	5	1
Apr-21	4	30	3	1
Mar-21	43	38	23	26
Feb-21	25	24	19	9
Jan-21	24	24	7	13
Dec-20	60	60	5	11
Nov-20	35	35	7	5
Oct-20	37	37	10	8
Sep-20	32	32	1	6
Aug-20	23	23	13	14
Jul-20	29	29	9	6
June-20	53	49	3	6

Trahan	PM	PM	CM	CM
Month	Generated	Completed	Generated	Completed
May-21	20	10	0	0
Apr-21	2	19	0	2
Mar-21	16	15	5	2
Feb-21	9	9	1	1
Jan-21	6	6	4	3
Dec-20	33	33	0	1
Nov-20	10	9	2	1
Oct-20	5	3	1	1
Sep-20	17	17	1	1
Aug-20	14	14	1	1
Jul-20	18	18	0	0
June-20	31	30	0	1

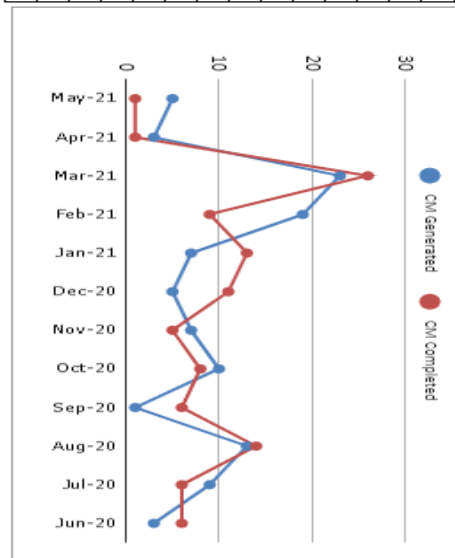
P Hills	PM	PM	CM	CM
Month	Generated	Completed	Generated	Completed
May-21	6	2	0	0
Apr-21	0	13	0	1
Mar-21	8	8	4	4
Feb-21	4	4	0	0
Jan-21	2	2	0	0
Dec-20	7	7	0	0
Nov-20	2	2	0	0
Oct-20	6	6	0	0
Sep-20	8	8	2	3
Aug-20	4	4	2	2
Jul-20	11	11	1	1
June-20	8	8	0	0

Lift Stations	PM	PM	CM	CM
May-21	103	117	4	3
Apr-21	2	99	7	2
Mar-21	104	104	7	6
Feb-21	100	100	8	5
Jan-21	102	102	7	8
Dec-20	201	201	5	7
Nov-20	103	103	11	7
Oct-20	101	101	5	9
Sep-20	104	104	11	11
Aug-20	102	102	14	14
Jul-20	102	102	5	4
June-20	103	103	4	6

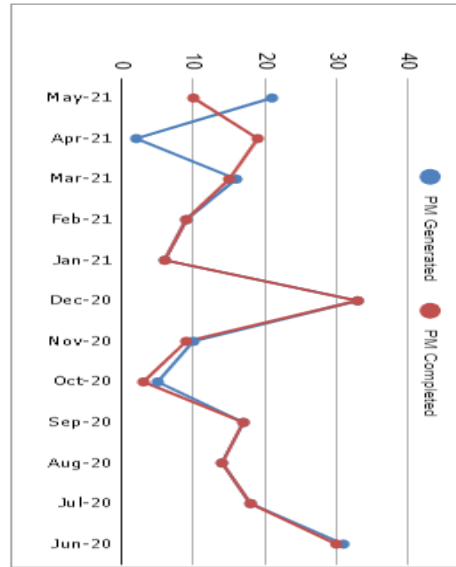
Savanna	PM	PM
Month	Generated	Completed
May-21	30	20
Apr-21	4	30
Mar-21	43	38
Feb-21	25	24
Jan-21	24	24
Dec-20	60	60
Nov-20	35	35
Oct-20	37	37
Sep-20	32	32
Aug-20	23	23
Jul-20	29	29
Jun-20	53	49



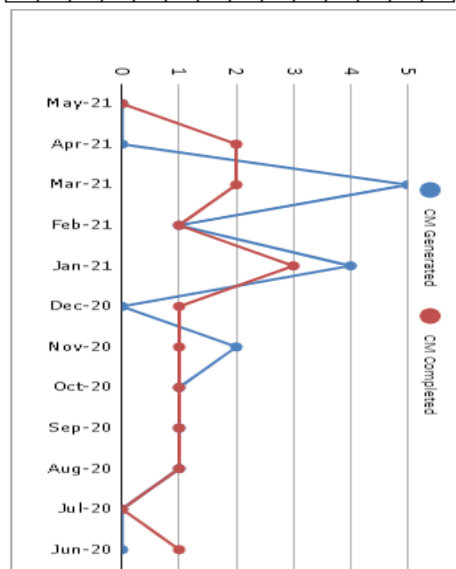
Savanna	CM	CM
Month	Generated	Completed
May-21	5	1
Apr-21	3	1
Mar-21	23	26
Feb-21	19	9
Jan-21	7	13
Dec-20	5	11
Nov-20	7	5
Oct-20	10	8
Sep-20	1	6
Aug-20	13	14
Jul-20	9	6
Jun-20	3	6



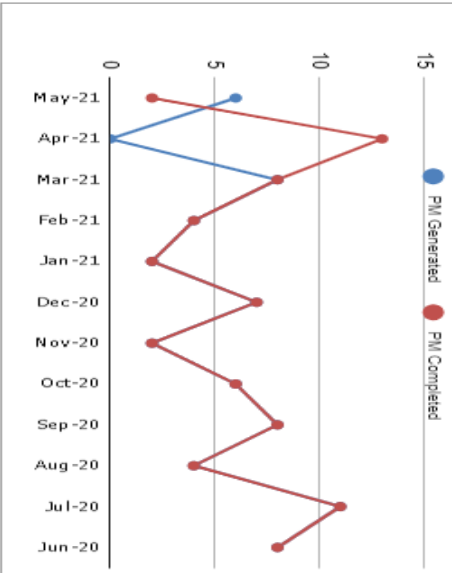
Tratton	PM	PM
Month	Generated	Completed
May-21	21	10
Apr-21	2	19
Mar-21	16	15
Feb-21	9	9
Jan-21	6	6
Dec-20	33	33
Nov-20	10	9
Oct-20	5	3
Sep-20	17	17
Aug-20	14	14
Jul-20	18	18
Jun-20	31	30



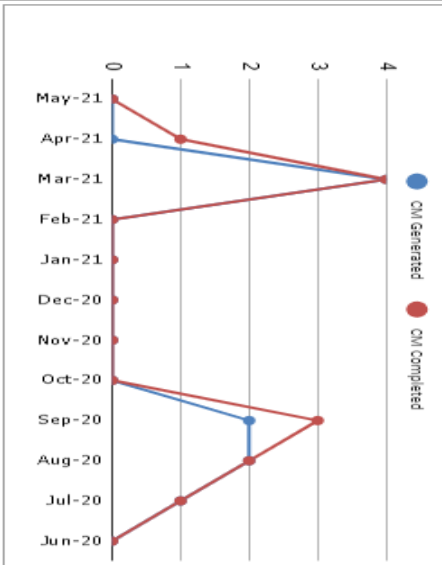
Tratton	CM	CM
Month	Generated	Completed
May-21	0	0
Apr-21	0	2
Mar-21	5	2
Feb-21	1	1
Jan-21	4	3
Dec-20	0	1
Nov-20	2	1
Oct-20	1	1
Sep-20	1	1
Aug-20	1	1
Jul-20	0	0
Jun-20	0	1



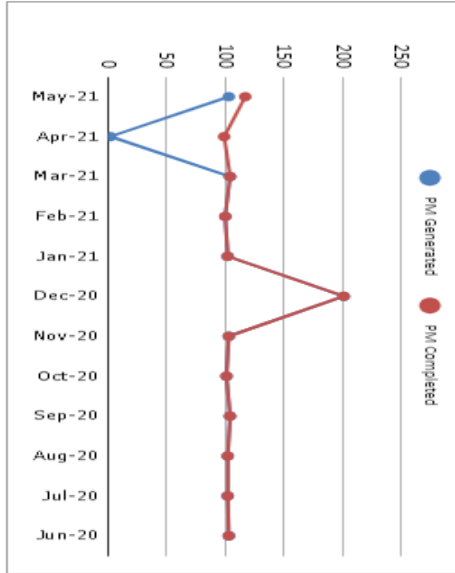
P Hills	PM	PM
Month	Generated	Completed
May-21	6	2
Apr-21	0	13
Mar-21	8	8
Feb-21	4	4
Jan-21	2	2
Dec-20	7	7
Nov-20	2	2
Oct-20	6	6
Sep-20	8	8
Aug-20	4	4
Jul-20	11	11
Jun-20	8	8



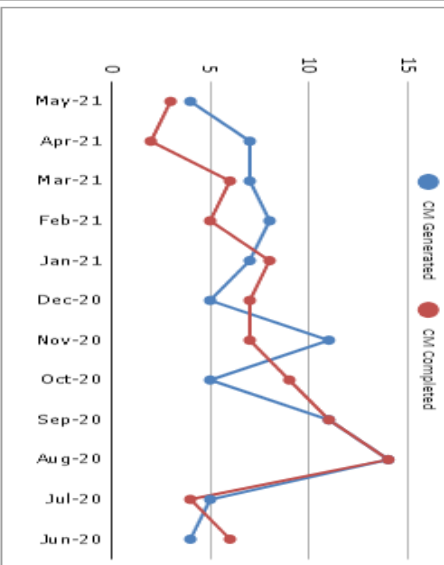
P Hills	CM	CM
Month	Generated	Completed
May-21	0	0
Apr-21	0	1
Mar-21	4	4
Feb-21	0	0
Jan-21	0	0
Dec-20	0	0
Nov-20	0	0
Oct-20	0	0
Sep-20	2	3
Aug-20	2	2
Jul-20	1	1
Jun-20	0	0



Lift Stations	PM	PM
Month	Generated	Completed
May-21	103	117
Apr-21	2	99
Mar-21	104	104
Feb-21	100	100
Jan-21	102	102
Dec-20	201	201
Nov-20	103	103
Oct-20	101	101
Sep-20	104	104
Aug-20	102	102
Jul-20	102	102
Jun-20	103	103



Lift Stations	CM	CM
Month	Generated	Completed
May-21	4	3
Apr-21	7	2
Mar-21	7	6
Feb-21	8	5
Jan-21	7	8
Dec-20	5	7
Nov-20	11	7
Oct-20	5	9
Sep-20	11	11
Aug-20	14	14
Jul-20	5	4
Jun-20	4	6



Emergency AMP Projects (Account Management Projects)

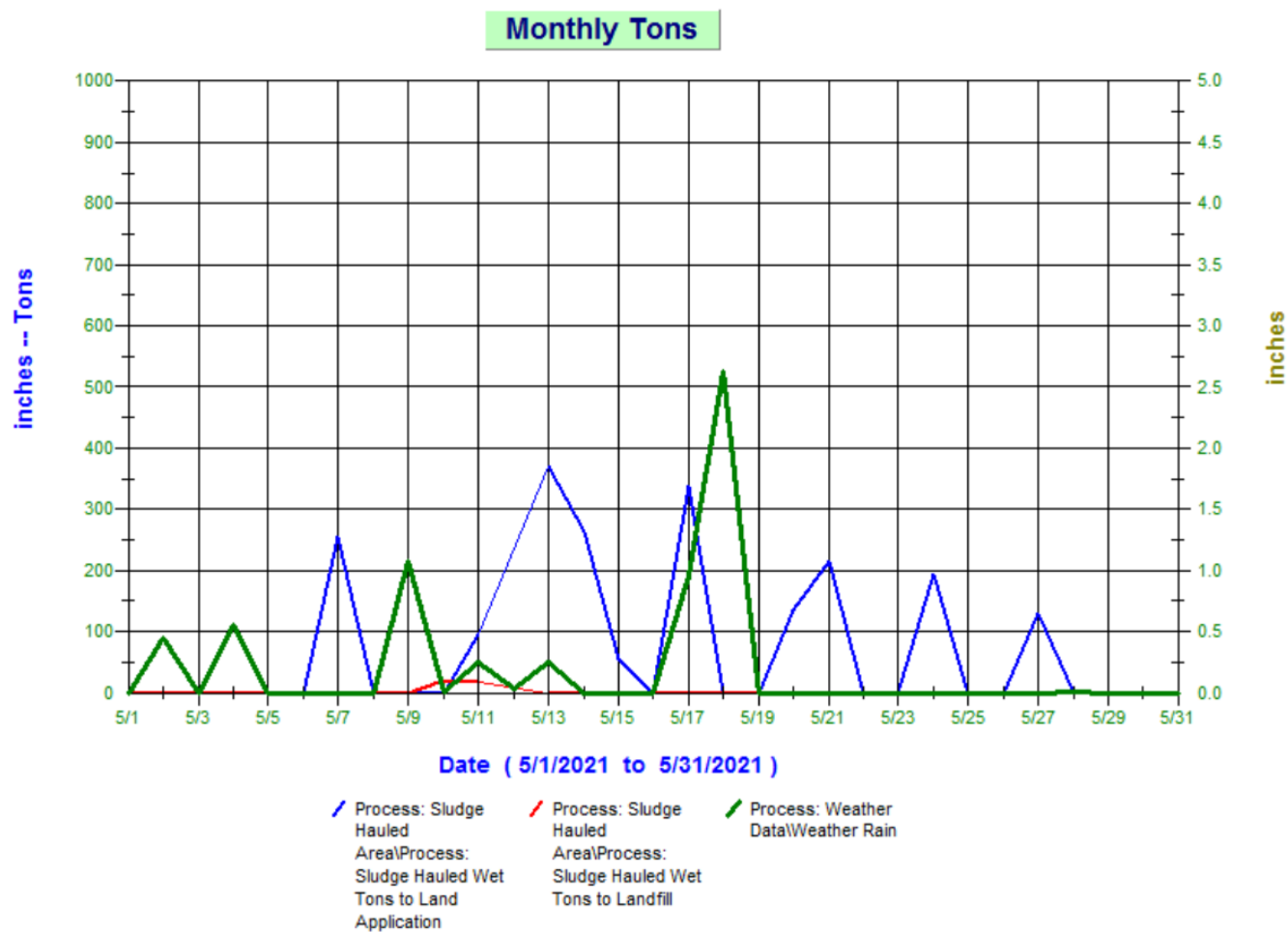
May 2021 Account Management Projects invoiced at 12% MU

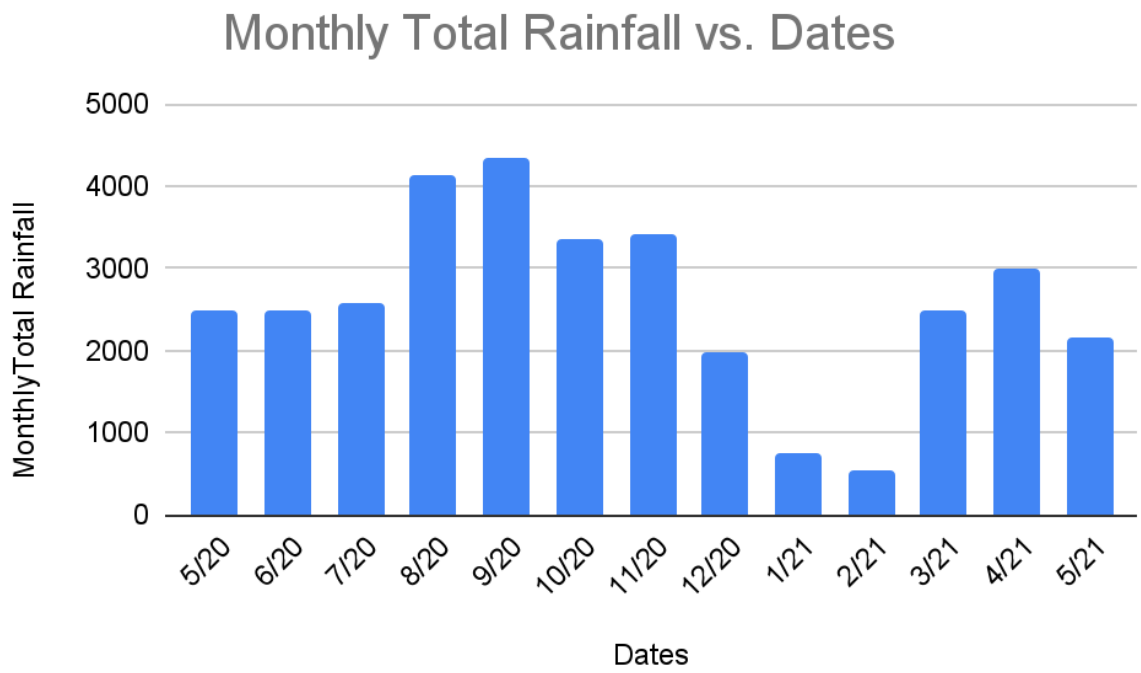
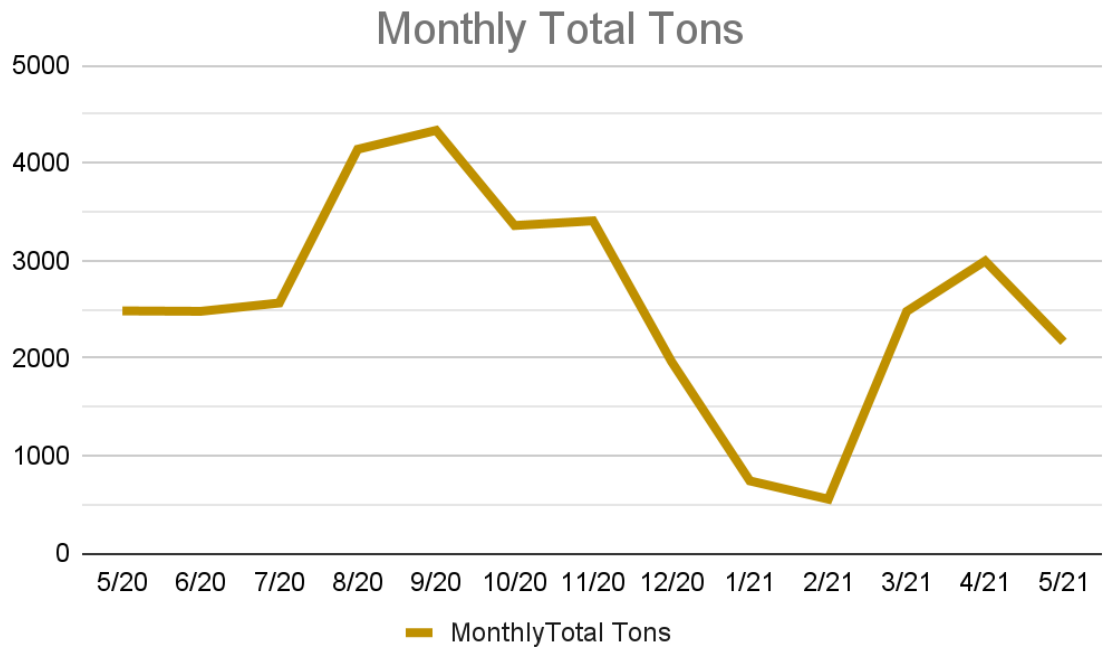
- Tax on Muffin Monster Dewater Frac Tank - Invoice # 90283905 - \$1,242.15
- RAW #4 2020 Pump Failure Pump Rental Period 2/1-2/28 # 90283557 - \$90,674.54
- RAW #4 2020 Pump Failure Pump Rental Period 3/1-3/28 # 90283556 - \$90,674.54
- RAW #4 2020 Rental Pump Fuel On 3/26, 4/12 & 4/13 # 90283558 - \$11,761.40

8.0 Biosolids Processing and Land Application

May 2021 Rainfall vs. Tons

5/1/21	0	0.00
5/2/21	0.45	0.00
5/3/21	0	0.00
5/4/21	0.56	0.00
5/5/21	0	0.00
5/6/21	0	19.88
5/7/21	0	255.87
5/8/21	0	0.00
5/9/21	1.08	0.00
5/10/21	0.01	20.43
5/11/21	0.25	112.60
5/12/21	0.03	0.00
5/13/21	0.25	371.06
5/14/21	0	264.00
5/15/21	0	54.43
5/16/21	0	0.00
5/17/21	0.96	339.12
5/18/21	2.63	0.00
5/19/21	0	0.00
5/20/21	0	171.79
5/21/21	0	216.11
5/22/21	0	0.00
5/23/21	0	0.00
5/24/21	0	193.09
5/25/21	0	0.00
5/26/21	0	0.00
5/27/21	0	130.05
5/28/21	0.01	0.00
5/29/21	0	0.00
5/30/21	0	0.00
5/31/21	0	0.00
	6.23	2148.43





Monthly Rainfall vs. Tons

Dates	Monthly Total Rainfalls	Monthly Total Tons
May-20	3.51	2,485.1
June-20	5.38	2,149.9
July-20	4.74	2,566
Aug-20	6.16	4,140.8
Sept-20	4.15	4,334.1
Oct-20	5.38	3,359.6
Nov-20	1.66	3,407.3
Dec-20	4.17	1,966.9
Jan-21	2.97	743.7
Feb-21	2.45	556.50
Mar-21	6.69	2480.08
Apr-21	8.49	2996.40
May-21	6.23	2148.43

Total monthly loads and total monthly tons. (Data allocated from May 2020 to May 2021). *Data listed above is a combination of land application and landfill haulage. Trahon Sludge summary is allocated above.*

Monthly Haulage Allocated Data

Total Wet Tons: 2148.43

Total Truck Loads Hauled: 98

Total Truck Loads Hauled to Clearview: 5

Total Truck Loads Hauled to Magnolia: 0

* Trahon Liquid Sludge is no longer being transported to Savanna WWTP. Trahon WWTP produces its own biosolids to be hauled to proper disposal sites* The Trahon Sludge summary is allocated in Attachment 8.1.

Belt Filter Press Average Run Times For May 2021

Date	Press #5 Run Time (Hrs)	Press #4 Run Time (Hrs)
5/1- 5/7- Week 1	2.85	2.85
5/8- 5/14- Week 2	9.85	10.28
5/15- 5/21- Week 3	14.28	16.28
5/22-5/28- Week 4	13.71	12.71
5/29- 5/31- Week 5	21	21

9.0 Mule Jail Station Run Time Hours

LS048 Mule Jail Run Time Hours May 2021

DATE	PUMP #1	PUMP #2	KWH
05/03/2021	406,676	349,699	83056
05/10/2021	407,364	350,163	86244
05/17/2021	408,198	350,495	89148
05/24/2021	409,212	350,871	92581
05/31/2021	402,228	351,390	95421

Above Information collected by Maintenance Department personnel.

10.0 Scrap Metal Receipts

Month	Scrap Metal Tons	Receipt Ticket	Receipt Amt.
Oct-20	0.00		0.00
Nov-20	0.00		0.00
Dec-20	14700	TOLOJD	\$1,139.25.
Jan-21	0.00		0.00
Feb-21	0.00		0.00
Mar-21	880	TOMDGS	39.60
Apr-21	0.00		0.00
May-21	0.00		0.00
Jun-21			
Jul-21			
Aug-21			
Sept-21			

Savanna May 2021 Flows

May, 2021

Veolia Water NA

City of Jackson, MS Savanna WWTP Flow Summary

					FINAL EFFLUENT						
Date	Day	Inf Plant Flow MGD	West Rankin Inf. Flow (plant) MGD	West Rankin Inf. flow (Diversion cells) MGD	Eff Flow, Plant (Outfall 101) MGD	Eff Flow, Bypass (Outfall 201) MGD	Eff Flow, Total (Outfall 001) MGD	WDS Flow MGD	Rain inches	River Stage ft	Northgate % Open %
Variable ID ==>		1100	1103	1104	2200	20101	2202	5506	3	4	10
05/01/21	Sat	43.24		6.98	44.35	0.00	44.35	0.00	0.00	9.90	100
05/02/21	Sun	47.60		9.31	48.62	0.00	48.62	0.00	0.45	9.20	100
05/03/21	Mon	48.92		7.97	51.45	0.00	51.45	0.35	0.00	9.30	100
05/04/21	Tue	52.05		13.51	53.90	0.00	53.90	0.47	0.56	9.30	100
05/05/21	Wed	43.37		8.73	45.64	54.28	99.92	0.42	0.00	10.80	100
05/06/21	Thu	44.50		7.43	44.64	14.68	59.32	0.42	0.00	13.40	100
05/07/21	Fri	47.69		7.15	47.67	3.87	51.54	0.42	0.00	14.60	100
05/08/21	Sat	47.15		6.89	48.19	0.00	48.19	0.00	0.00	12.90	100
05/09/21	Sun	48.13		9.46	49.76	0.00	49.76	0.00	1.08	14.80	100
05/10/21	Mon	49.01		8.32	50.75	0.00	50.75	0.42	0.01	11.70	100
05/11/21	Tue	48.60		0.00	50.20	0.00	50.20	0.00	0.25	9.80	100
05/12/21	Wed	46.83		0.00	48.66	0.00	48.66	0.00	0.03	6.60	100
05/13/21	Thu	41.75		7.71	42.12	0.00	42.12	0.00	0.25	6.40	100
05/14/21	Fri	44.09		7.95	44.45	0.00	44.45	0.41	0.00	6.40	100
05/15/21	Sat	44.90		7.74	45.60	0.00	45.60	0.00	0.00	10.40	100
05/16/21	Sun	41.47		7.64	43.04	0.00	43.04	0.00	0.00	8.80	100
05/17/21	Mon	37.80		12.89	41.87	38.58	80.45	0.13	0.96	14.90	100
05/18/21	Tue	28.77		15.69	31.38	33.66	65.04	0.00	2.63	14.90	100
05/19/21	Wed	29.13		13.12	30.30	35.62	65.92	0.22	0.00	14.60	100
05/20/21	Thu	42.57		9.19	43.86	29.12	72.98	0.00	0.00	13.90	100
05/21/21	Fri	40.47		8.45	40.85	15.29	56.14	0.32	0.00	13.90	100
05/22/21	Sat	43.54		8.30	44.22	2.12	46.34	0.31	0.00	8.50	100
05/23/21	Sun	44.68		7.96	45.25	0.00	45.25	0.00	0.00	5.60	100
05/24/21	Mon	28.88		7.92	30.18	0.00	30.18	0.00	0.00	6.60	100
05/25/21	Tue	42.03		7.72	42.79	0.00	42.79	0.31	0.00	5.30	100
05/26/21	Wed	41.18		7.86	40.63	0.00	40.63	0.29	0.00	4.90	100
05/27/21	Thu	36.60		7.86	37.47	0.00	37.47	0.22	0.00	6.30	100
05/28/21	Fri	46.02		7.72	46.79	0.00	46.79	0.16	0.01	4.90	100
05/29/21	Sat	42.53		7.34	44.03	0.00	44.03	0.00	0.00	4.90	100
05/30/21	Sun	43.55		6.99	44.53	0.00	44.53	0.00	0.00	4.80	100
05/31/21	Mon	43.82		7.35	44.91	0.00	44.91	0.00	0.00	4.70	100
Monthly Avg		42.93		8.17	44.13	7.33	51.46	0.16	0.20	9.45	100
TOTAL		1,331		253.15	1,368	227	1,595	4.87	6.23		



City of Jackson, Mississippi Wastewater Overflow Assessment Form

City of Jackson, Mississippi
Department Of Public Works
Post Office Box 17
Jackson, MS 39205
(601) 956-7001

WEH/AJA Tracking #

Notification Date 5/5/21 Time 2:55 ^{AM}
311# _____
Name of Person Reporting Overflow Blake Boehringer
House Number _____ Street _____ Phone _____
House Number of Overflow 3410 Street I-55 S
SSO Location Savanna St WWTP Dispatch Date _____ Time _____ ^{AM}
PM

Arrival Date _____ Time _____ ^{AM}
PM Verification Date _____ Time _____ ^{AM}
PM
Latitude _____ Longitude _____ Precinct _____
NPDES System Area (circle) Savanna St. Trahon Presidential Hills
(MS0024285) (MS0044059) (MS0030285)
Receiving Bakers Creek Bogue Chitto Eubanks Lynch Three Mile White Oak
Waterway: Belhaven Caney Hanging Moss Pearl Town
(circle) Big Creek Eastover Hardy Purple Trahon
Did overflow reach waterway? ☒ Yes ☐ No Line Ownership: ☒ Municipal ☐ Private
Overflow Source ☐ Manhole ☒ Constructed Bypass ☐ Pump Station
☐ Ground Surface (defective pipe underground) ☐ Cleanout
☐ Other _____
Date/Time Overflow Began 5/5/21 5:23 ^{PM} (circle) AM Date/Time Overflow End 5/7/21 5:00 ^{PM}
Estimated Volume of Discharge 72.43 mGallons Estimation Method Metered
Cause of Overflow: ☐ Grease ☐ Roots ☐ Solids ☐ Collapsed Pipe
☐ Pump Station Failure ☒ Excessive Flow ☐ Undersized Line
☐ Other (Describe) _____
Temporary Corrective Action: (see Attached Photos) _____

MDEQ Notification Date 5/5/21 Time 2:55 ^{AM}
Number of Overflows at this Location within Past 12 Months (Including Dates of Overflows):
14
Actions taken to minimize environmental impact (See Attached Photos) _____
If Overflow Cause Due to Rainfall, Number of Inches of Rain 1.01
Planned Permanent Corrective Action - If Applicable - (Itemization and Schedule) - See attached
Detailed Resource Report and Schedule Work Order No.: _____
Public Notification: ☐ Yes ☐ No If yes - ☐ Signs ☐ News Release ☐ Other
Customer Satisfaction Response/Additional Comments - If applicable, see Attached.
Signature of City Respondent _____ Signature of Authorized Supervisor _____

Form updated February 2015



Date: May 10, 2021
 Mrs. Bailey Long
 Environmental Compliance & Enforcement Division
 Office of Pollution Control
 Post Office Box 2261
 Jackson, MS 39225

NPDES Permit No. MS0024295

Mrs. Long,

This letter is sent by Veolia North America as contract operator on behalf of the City of Jackson. The most recent Savanna Street Bypass was started on Wednesday, May 5th, 2021, at 8:23 AM due to rain and diverted flows.

On Sunday 5/1/21 the level in the storm lagoon at Savanna WWTP was 8.16 feet. On 5/2/21 Savanna received 0.45 inches of rain. This small but impactful rain event affected our ability to recover diverted flow from the storm lagoon. On Tuesday 5/4/21 Savanna received another 0.56 inches of rain. This rain event caused Savanna to divert some incoming flows into the lagoon. Diverted flows from Savanna, along with West Rankin flows filled the lagoon to 10.0 feet. Wednesday morning 5/5/21, the decision was made to bypass.

Date:	Cell #3 Level (Ft)	West Rankin (MGD)	Recovery (MGD)	Rainfall (In)
5/1	8.16	6.98	7.0	0.00
5/2	8.24	9.31	5.0	0.45
5/3	8.50	7.97	8.0	0.00
5/4	8.58	13.51	3.0	0.56
5/5	10.00	8.73	0.0	0.00

The bypass was stopped on May 7th, 2021 at 5:00 PM. The total bypass flow discharged was 72.83 MG. Recovery from the lagoon was started as soon as possible.

Regards,

Blake Boehringer

City of Jackson, Mississippi
Department Of Public Works
Post Office Box 17
Jackson, MS 39205
601 686 7000

Notification Date 5/18/21 Time 2:53 ^{AM} _{PM} 311# _____
Name of Person Reporting Overflow Blake Boehringer
House Number _____ Street _____ Phone _____
House Number of Overflow 3810 Street I-55 S
SSO Location Savanna St WWTP Dispatch Date _____ Time _____ ^{AM} _{PM}

MDEQ Notification Date 5/18/21 Time 2:53 ^{AM}
Number of Overflows at this Location within Past 12 Months (Including Dates of Overflows):
18

If Overflow Cause Due to Rainfall, Number of Inches of Rain 3.59

Planned Permanent Corrective Action – If Applicable – (Itemization and Schedule) – See attached Detailed Resource Report and Schedule Work Order No.:

Public Notification: ☐ Yes ☐ No If yes - ☐ Signs ☐ News Release ☐ Other

Customer Satisfaction Response/Additional Comments – If applicable, see Attached.

Signature of City Respondent

Signature of Authorized Supervisor



Date: May 24, 2021
Mrs. Bailey Long
Environmental Compliance & Enforcement Division
Office of Pollution Control
Post Office Box 2261
Jackson, MS 39225

NPDES Permit No. MS0024295

Mrs. Long,

This letter is sent by Veolia North America as contract operator on behalf of the City of Jackson. The most recent Savanna Street Bypass was started on Wednesday, May 17th, 2021, at 9:53 PM due to rain and diverted flows.

On Monday 5/17/21 Savanna received 0.96 inches of rain. This rain increased incoming flows from Jackson hampering our ability to recover from the storm lagoon. Diverted West Rankin flows into the storm lagoons increased, causing it to fill quickly. Monday evening, Savanna St needed to divert flow to the storm lagoon in order to maintain control within the plant. The lagoon reached a level of 10 feet Monday night and the decision was made to bypass.

On Tuesday 5/18/21 Savanna received an additional 2.63 inches of rain. This rain along with planned plant shutdowns Tuesday and Wednesday extended the duration of the bypass. The bypass was stopped on May 22nd, 2021 at 6:45 PM. The total bypass flow discharged was 154.39 MG. Recovery from the lagoon was started as soon as possible.

Regards,

A handwritten signature in black ink, appearing to read 'Blake B.', written over a horizontal line.

Blake Boehringer

DMRs

Savanna 001 DMR Report Summary

May 2021

			Rain	River Stage	Eff Flow, Plant (Outfall 101)	Eff Flow, Bypass (Outfall 201)	Eff Flow, Total (Outfall 001)	Eff Flow, Total (001) Week Avg	Eff Byp. Flow, Week Avg (Outfall 201)	Eff Flow, Total, Week Avg (001)	Eff D.O NPDES	Eff pH NPDES
	Date	Day	inches	ft	MGD	MGD	MGD	MGD	MGD	MGD	mg/L	SU
			3	4	2200	20101	2202	2203	2204	2205	2259	2240
1	5/1/21	Sat	0.0	9.9	44.350	0.000	44.350				9.7	7.3
2	5/2/21	Sun	0.5	9.2	48.620	0.000	48.620				9.4	7.2
3	5/3/21	Mon	0.0	9.3	51.450	0.000	51.450				9.8	7.4
4	5/4/21	Tue	0.6	9.3	53.900	0.000	53.900				9.9	7.5
5	5/5/21	Wed	0.0	10.8	45.640	54.280	99.920				9.2	7.4
6	5/6/21	Thu	0.0	13.4	44.640	14.680	59.320				8.0	7.0
7	5/7/21	Fri	0.0	14.6	47.670	3.870	51.540				6.8	6.7
8	5/8/21	Sat	0.0	12.9	48.190	0.000	48.190	48.6	10.4	59.0	9.1	7.0
9	5/9/21	Sun	1.1	14.8	49.760	0.000	49.760				9.0	6.9
10	5/10/21	Mon	0.0	11.7	50.750	0.000	50.750				9.1	6.9
11	5/11/21	Tue	0.3	9.8	50.200	0.000	50.200				9.2	6.8
12	5/12/21	Wed	0.0	6.6	48.660	0.000	48.660				9.8	7.2
13	5/13/21	Thu	0.3	6.4	42.120	0.000	42.120				7.8	6.8
14	5/14/21	Fri	0.0	6.4	44.450	0.000	44.450				8.9	7.3
15	5/15/21	Sat	0.0	10.4	45.600	0.000	45.600	47.4	0.0	47.4	9.8	7.3
16	5/16/21	Sun	0.0	8.8	43.040	0.000	43.040				9.1	7.3
17	5/17/21	Mon	1.0	14.9	41.870	38.580	80.450				9.7	7.4
18	5/18/21	Tue	2.6	14.9	31.380	33.660	65.040				7.2	6.7
19	5/19/21	Wed	0.0	14.6	30.300	35.620	65.920				6.3	6.9
20	5/20/21	Thu	0.0	13.9	43.860	29.120	72.980				6.1	6.9
21	5/21/21	Fri	0.0	13.9	40.850	15.290	56.140				6.5	7.0
22	5/22/21	Sat	0.0	8.5	44.220	2.120	46.340	39.4	22.1	61.4	7.3	7.3
23	5/23/21	Sun	0.0	5.6	45.250	0.000	45.250				8.9	7.6
24	5/24/21	Mon	0.0	6.6	30.180	0.000	30.180				8.8	7.1
25	5/25/21	Tue	0.0	5.3	42.790	0.000	42.790				9.3	7.3
26	5/26/21	Wed	0.0	4.9	40.630	0.000	40.630				9.6	7.0
27	5/27/21	Thu	0.0	6.3	37.470	0.000	37.470				8.2	7.2
28	5/28/21	Fri	0.0	4.9	46.790	0.000	46.790				9.1	7.1
29	5/29/21	Sat	0.0	4.9	44.030	0.000	44.030	41.0	0.0	41.0	8.8	7.2
30	5/30/21	Sun	0.0	4.8	44.530	0.000	44.530				9.0	7.2
31	5/31/21	Mon	0.0	4.7	44.910	0.000	44.910				9.0	7.3
Minimum			0.0	4.7	30.180	0.000	30.180	39.360	0.000	41.020	6.1	6.7
Maximum			2.6	14.9	53.900	54.280	99.920	48.587	22.056	61.416	9.9	7.6
Total			6.2		1,368	227.220	1,595.320	176.330	32.460	208.790	268	221.2
Average			0.2	9.5	44.132	7.330	51.46	44.100	8.125	52.200	8.7	7.1
Geo Mean												
Limits					Report	Report	46	Report	Report	Report	6	6.0
												9.0
Exceptions					Report	Report	1	Report	Report	Report	0	0
												0
Total Exceptions						9						

Savanna 001 DMR Report Summary

May 2021

		Inf TSS Conc	Inf TSS Conc WAVG	Inf CBOD Conc	Inf CBOD Conc WAVG	Inf NH3-N Conc	Inf NH3-N Conc WAVG	Inf TN Conc	Inf TN Conc NPDES Weekly Avg	Inf TP Conc	Inf TP Conc NPDES Weekly Avg
	Date										
		mg/l	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		1110	1111	1115	1116	1119	1120	1123	1190	1124	1192
1	5/1/21	224.0		228.2		14.1					
2	5/2/21	160.0		157.9		12.9		23.4		3.0	
3	5/3/21	202.0		163.0		12.4					
4	5/4/21	220.0		57.0		10.0					
5	5/5/21	78.0		50.3		9.5					
6	5/6/21	234.0		70.0		13.9					
7	5/7/21	240.0		126.9		15.3					
8	5/8/21	162.0	185.1	108.2	104.8	14.9	12.7		23.4		3.0
9	5/9/21	244.0		75.0		11.1		21.6		3.0	
10	5/10/21	198.0		91.7		11.5					
11	5/11/21	148.0		140.2		10.3					
12	5/12/21	118.0		55.6		8.9					
13	5/13/21	208.0		156.6		12.8					
14	5/14/21	186.0		151.9		11.4					
15	5/15/21	234.0	190.9	280.8	136.0	12.8	11.3		21.6		3.0
16	5/16/21	184.0		157.8		14.9		26.0		3.7	
17	5/17/21	184.0		99.7		11.8					
18	5/18/21	290.0		66.8		6.1					
19	5/19/21	194.0		50.5		6.2					
20	5/20/21	116.0		71.6		13.2					
21	5/21/21	154.0		82.4		8.2					
22	5/22/21	346.7	209.8	84.2	87.6	14.1	10.6		26.0		3.7
23	5/23/21	90.0		98.4		12.9		19.7		2.9	
24	5/24/21	344.0		104.9		13.5					
25	5/25/21	603.4		84.7		12.1					
26	5/26/21	234.0		91.1		13.3					
27	5/27/21	536.7		63.5		10.9					
28	5/28/21	306.0		157.2		14.1					
29	5/29/21	268.0	340.3	148.6	106.9	13.8	12.9		19.7		2.9
30	5/30/21	130.0		74.9		13.4					
31	5/31/21	90.0		77.1		15.1		23.0	23.0	2.8	2.8
	Minimum	78	185	50	88	6.1	10.6	20	20	3	3
	Maximum	603	340	281	136	15.3	12.9	26	26	4	4
	Total	6,927	926	3,427	435	375.4	47.5	114	114	15	15
	Average	223	232	111	109	12.1	11.9	23	23	3.1	3.1
	Geo Mean										
	Limits	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report
	Exceptions	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report

Savanna 001 DMR Report Summary

May 2021

		InfTSS lbs, Total	InfTSS lbs, Total WAVG	InfCBOD lbs, Total	Inf CBOD lbs WAVG	Inf NH3-N lbs, Total	Inf NH3-N lb WAVG	InfTN lbs, Total	InfTN Load NPDES Weekly Avg	InfTP lbs, Total	InfTP Load NPDES Weekly Avg	Mixed Liquor D.O. Min NPDES	Mixed Liquor D.O. Max NPDES	Mixed Liquor Sett.Sol. Min NPDES	Mixed Liquor Sett.Sol. Max. NPDES
	Date														
		lbs/day	lbs	lbs/day	lbs	lbs/day	lbs	lbs/day	lbs/day	lbs/day	lbs/day	mg/L	mg/L	mL/L	mL/L
		1130	1131	1134	1135	1136	1137	1138	1176	1139	1178	3322	3323	3316	3317
1	5/1/21	80,779		82,294		5,085						4.6	10.0	100	230
2	5/2/21	63,517		62,684		5,121		9,289		1,191		0.9	9.9	100	290
3	5/3/21	82,415		66,503		5,059						4.3	9.8	130	250
4	5/4/21	95,501		24,744		4,341						0.6	9.9	60	240
5	5/5/21	28,213		18,194		3,436						6.6	9.8	50	220
6	5/6/21	86,844		25,979		5,159						6.1	9.9	120	250
7	5/7/21	95,456		50,473		6,085						0.9	9.6	100	260
8	5/8/21	63,703	73,664	42,548	41,589	5,859	5,009		9,289		1,191	2.7	9.6	130	260
9	5/9/21	97,943		30,105		4,456		8,670		1,204		1.5	9.5	120	250
10	5/10/21	80,931		37,482		4,701						5.5	9.5	100	280
11	5/11/21	59,988		56,826		4,175						1.3	9.5	60	420
12	5/12/21	46,086		21,715		3,476						6.2	9.6	110	240
13	5/13/21	72,425		54,527		4,457						7.4	9.7	136	280
14	5/14/21	68,394		55,855		4,192						6.7	9.6	120	310
15	5/15/21	87,625	73,342	105,150	51,666	4,793	4,321		8,670		1,204	1.8	9.7	100	280
16	5/16/21	63,638		54,577		5,153		8,992		1,280		1.0	9.6	60	210
17	5/17/21	58,006		31,431		3,720						1.0	9.4	190	510
18	5/18/21	69,583		16,028		1,464						0.6	9.5	30	80
19	5/19/21	47,131		12,269		1,506						2.9	9.2	80	320
20	5/20/21	41,184		25,420		4,686						2.8	9.1	140	300
21	5/21/21	51,978		27,812		2,768						3.9	9.2	120	220
22	5/22/21	125,895	65,345	30,575	28,302	5,120	3,488		8,992		1,280	4.9	8.9	110	230
23	5/23/21	33,537		36,667		4,807		7,341		1,081		1.1	9.1	130	200
24	5/24/21	82,856		25,266		3,252						4.5	9.1	60	210
25	5/25/21	211,510		29,690		4,241						3.6	9.0	140	230
26	5/26/21	80,365		31,287		4,568						1.3	9.0	160	270
27	5/27/21	163,824		19,383		3,327						5.8	9.0	170	480
28	5/28/21	117,445		60,334		5,412						4.2	8.7	180	510
29	5/29/21	95,060	112,085	52,708	36,477	4,895	4,357		7,341		1,081	4.0	8.5	200	580
30	5/30/21	47,217		27,204		4,867						5.0	8.9	170	290
31	5/31/21	32,891		28,177		5,518		8,406	8,406	1,023	1,023	2.8	8.8	160	350
	Minimum	28,213	65,345	12,269	28,302	1,464	3,488	7,341	7,341	1,023	1,023	0.63	8.53	30	80
	Maximum	211,510	112,085	105,150	51,666	6,085	5,009	9,289	9,289	1,280	1,280	7.43	10.04	200	580
	Total	2,431,942	324,436	1,243,907	158,033	135,698	17,175	42,698	42,698	5,779	5,779	106.40	290.38	3,636	9,050
	Average	78,450	81,109	40,126	39,509	4,377	4,294	8,540	8,540	1,156	1,156	3.44	9.37	117	292
	Geo Mean														
	Limits	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report
	Exceptions	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report

Savanna 001 DMR Report Summary

May 2021

	Date	Eff TSS Conc mg/l	Eff TSS Conc NPDES Weekly Avg mg/L	Eff CBOD Conc mg/l	Eff CBOD Conc WAVG mg/L	Eff NH3-N Conc mg/l	Eff NH3-N Conc WAVG mg/L	Eff TN Conc mg/L	Eff TN Conc NPDES Weekly Avg mg/L	Eff TP Conc mg/l	Eff TP Conc WAVG mg/L	Eff Post SO2 TRC Lab Total NPDES mg/L	CL2 WAVG	Eff FC GM Daily (10^4 Avg Log10) CFU/100mL	Eff FC Week GM (10^4 Wk Avg Log10) CFU/100mL
		2211	2295	2220	2224	2227	2228	2233	2329	2236	2238	2252	2258	2487	2476
1	5/1/21	9.3		6.2		0.4		8.5		0.5		0.000		97.0	
2	5/2/21	10.8		3.0		0.2		7.4		0.5		0.000		151.0	
3	5/3/21	5.0		1.9		0.5		7.1		0.5		0.000		36.0	
4	5/4/21	9.2		2.1		0.4		6.4		0.5		0.000		26.0	
5	5/5/21	107.5		17.2		10.6		18.1		3.1		0.000		36.0	
6	5/6/21	12.0		8.2		4.6		10.1		1.0		0.000		6,000.0	
7	5/7/21	8.2		2.4		0.3		6.9		0.5		0.000		6,000.0	
8	5/8/21	12.4	24.0	2.7	5.4	0.2	2.4	6.4	8.9	0.5	0.9	0.000	0.000	145.0	222
9	5/9/21	7.6		2.2		0.2		6.7		0.5		0.000		40.0	
10	5/10/21	8.8		2.5		0.2		6.0		0.5		0.000		51.0	
11	5/11/21	32.0		11.8		0.2		7.3		0.7		0.000		62.0	
12	5/12/21	50.0		2.8		0.1		7.7		0.7		0.000		177.0	
13	5/13/21	18.0		7.7		0.1		8.9		0.5		0.000		260.0	
14	5/14/21	14.9		1.8		0.1		8.5		0.5		0.000		230.0	
15	5/15/21	9.3	20.0	5.3	4.9	0.1	0.1	8.7	7.7	0.5	0.6	0.000	0.000	160.0	111
16	5/16/21	12.4		1.9		0.2		8.4		0.5		0.000		220.0	
17	5/17/21	13.0		14.7		6.2		13.2		1.0		0.000		59.0	
18	5/18/21	34.5		22.1		7.0		19.5		1.9		0.000		6,000.0	
19	5/19/21	47.5		17.6		8.9		12.5		1.4		0.000		6,000.0	
20	5/20/21	23.0		8.7		5.0		9.3		0.8		0.000		6,000.0	
21	5/21/21	17.0		8.3		3.6		9.8		0.8		0.000		6,000.0	
22	5/22/21	8.5	22.0	3.1	10.9	0.8	4.5	8.3	11.6	0.5	1.0	0.000	0.000	6,000.0	1,933
23	5/23/21	8.8		2.0		0.4		8.1		0.5		0.000		420.0	
24	5/24/21	12.2		6.4		0.7		9.6		0.5		0.000		99.0	
25	5/25/21	11.8		2.5		0.2		8.2		0.5		0.000		91.5	
26	5/26/21	13.0		2.6		0.2		8.7		0.5		0.000		61.4	
27	5/27/21	25.4		2.6		0.1		8.9		0.5		0.000		55.5	
28	5/28/21	24.5		2.7		0.2		8.2		0.7		0.000		73.0	
29	5/29/21	18.0	16.0	2.5	3.0	0.1	0.3	7.2	8.4	0.5	0.5	0.000	0.000	61.5	137
30	5/30/21	14.6		2.2		0.1		7.9		0.5		0.000		35.9	
31	5/31/21	15.8		2.4		0.1		8.0		0.5		0.000		72.8	
Minimum		5.0	16.0	1.8	3.0	0.1	0.1	6.0	7.7	0.5	0.53	0.000	0.000	26	111
Maximum		108	24.0	22.1	10.9	10.6	4.5	19.5	11.6	3.1	0.99	ND0.000	NODI=B	6,000	1,933
Total		615	82.0	180.1	24.2	52.0	7	280.5	36.6	22.6	3.01			44,721	2,403
Average		19.8	20.5	5.8	6.1	1.7	1.8	9.0	9.2	0.7	0.75	NODI=B		1,443	601
Geo Mean														178	
Limits		30	45	7.0	10.5	2.0	3.0	Report	Report	Report	Report	0.056	0.096	200	400
Exceptions		0	0	0	1	0	1	Report	Report	Report	Report	0	0	0	1

Savanna 001 DMR Report Summary

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		Eff TSS lbs, Total	Eff TSS lbs WAVG	Eff CBOD lbs, Total	Eff CBOD Load NPDES Weekly Avg	Eff NH3-N lbs, Total	Eff NH3-N lbs WAVG	Eff TN lbs, Total	Eff TN Load NPDES Weekly Avg	Eff TP lbs, Total	Eff TP Load NPDES Weekly Avg
	Date	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs	lbs/day	lbs/day	lbs/day	lbs/day
		2275	2276	2279	2307	2282	2283	2285	2333	2286	2340
1	5/1/21	3,439.9		2,293		148		3,144		185	
2	5/2/21	4,379.3		1,216		81		3,001		203	
3	5/3/21	2,145.5		815		215		3,047		215	
4	5/4/21	4,135.6		944		180		2,877		225	
5	5/5/21	89,583.3		14,333		8,833		15,083		2,583	
6	5/6/21	5,936.7		4,057		2,276		4,997		495	
7	5/7/21	3,524.7		1,032		129		2,966		215	
8	5/8/21	4,983.6	16,384.1	1,085	3,355	80	1,685	2,572	4,935	201	591
9	5/9/21	3,154.0		913		83		2,780		207	
10	5/10/21	3,724.6		1,058		85		2,540		212	
11	5/11/21	13,397.4		4,940		84		3,056		293	
12	5/12/21	20,291.2		1,136		41		3,125		284	
13	5/13/21	6,323.1		2,705		35		3,126		176	
14	5/14/21	5,523.6		667		37		3,151		185	
15	5/15/21	3,536.8	7,993.0	2,016	1,919	38	57	3,309	3,012	190	221
16	5/16/21	4,451.0		682		72		3,015		179	
17	5/17/21	8,722.4		9,863		4,160		8,857		671	
18	5/18/21	18,714.0		11,988		3,797		10,577		1,031	
19	5/19/21	26,114.2		9,676		4,893		6,872		770	
20	5/20/21	13,999.0		5,295		3,043		5,660		487	
21	5/21/21	7,959.5		3,886		1,686		4,588		375	
22	5/22/21	3,285.0	11,892.2	1,198	6,084	309	2,566	3,208	6,111	193	529
23	5/23/21	3,321.0		755		151		3,057		189	
24	5/24/21	3,070.8		1,611		176		2,416		126	
25	5/25/21	4,211.0		892		71		2,926		178	
26	5/26/21	4,405.1		881		68		2,948		169	
27	5/27/21	7,937.5		812		31		2,781		156	
28	5/28/21	9,560.6		1,054		78		3,200		273	
29	5/29/21	6,609.8	5,588.0	918	989	37	87	2,644	2,853	184	182
30	5/30/21	5,422.2		817		37		2,934		186	
31	5/31/21	5,917.9		899		37		2,996		187	
	Minimum	2,145	5,588	667	989	31	57	2,416	2,853	126	182
	Maximum	89,583	16,384	14,333	6,084	8,833	2,566	15,083	6,111	2,583	591
	Total	307,780	41,857	90,439	12,347	30,991	4,395	127,454	16,911	11,222	1,523
	Average	9,928	10,464	2,917	3,087	1,000	1,099	4,111	4,228	362	381
	Geo Mean										
	Limits	11,516	17,274	2,687	4,031	768	1,152	Report	Report	Report	Report
	Exceptions	0	0	1	1	1	2	Report	Report	0	0

Savanna 001 DMR Report Summary

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	CBOD Daily Removal NPDES	CBOD % Removal NPDES	TSS Rem. Daily	TSS Removal NPDES	Trahon Eff TN Mass	Trahon Eff TN Mass - W Avg Max	Trahon Eff TP Mass -	Trahon Eff TP Mass - W Avg Max	OB Curtis Eff TN	OB Curtis Eff TP	Net TN (Sav, Trahon & Curtis)	Net TP (Sav, Trahon & Curtis)	Net TN WAVG (Sav, Trahon & Curtis)	Net TP WAVG (Sav, Trahon & Curtis)
Date	%	%	%	%	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day
	2293	2289	2291	2287	9000	9001	9002	9003	9004	9005	9011	9010	9021	9020
1	5/1/21	97.3	95.0	95.8	91.0						3,144	185		
2	5/2/21	98.1	95.0	93.3	91.0	169.3	55.6				3,170	258		
3	5/3/21	98.8	95.0	97.5	91.0	54.1	54.1				3,101	269		
4	5/4/21	96.3	95.0	95.8	91.0	81.8	59.2				2,959	284		
5	5/5/21	65.8	95.0	-37.8	91.0						15,083	2,583		
6	5/6/21	88.3	95.0	94.9	91.0				15.9	11.9	5,013	507		
7	5/7/21	98.1	95.0	96.6	91.0						2,966	215		
8	5/8/21	97.5	95.0	92.3	91.0		102.0	56.0			2,572	201	4,980	617
9	5/9/21	97.1	95.0	96.9	91.0	204.5	93.9				2,985	301		
10	5/10/21	97.3	95.0	95.6	91.0	211.2	90.1				2,751	302		
11	5/11/21	91.6	95.0	78.4	91.0	762.7	118.2				3,819	411		
12	5/12/21	95.0	95.0	57.6	91.0				0.1	0.1	3,125	284		
13	5/13/21	95.1	95.0	91.3	91.0						3,126	176		
14	5/14/21	98.8	95.0	92.0	91.0						3,151	185		
15	5/15/21	98.1	95.0	96.0	91.0		393.0	101.0			3,309	190	3,181	264
16	5/16/21	98.8	95.0	93.3	91.0	217.8	83.3				3,233	263		
17	5/17/21	85.3	95.0	92.9	91.0						8,857	671		
18	5/18/21	66.9	95.0	88.1	91.0	249.3	91.6				10,827	1,122		
19	5/19/21	65.1	95.0	75.5	91.0	352.7	88.2		1.6	7.8	7,226	866		
20	5/20/21	87.8	95.0	80.2	91.0						5,660	487		
21	5/21/21	89.9	95.0	89.0	91.0						4,588	375		
22	5/22/21	96.3	95.0	97.5	91.0		273.0	88.0			3,208	193	6,228	568
23	5/23/21	98.0	95.0	90.2	91.0	301.7	88.5				3,359	277		
24	5/24/21	93.9	95.0	96.5	91.0	281.1	89.1				2,697	215		
25	5/25/21	97.0	95.0	98.0	91.0	239.4	91.4				3,166	270		
26	5/26/21	97.1	95.0	94.4	91.0				1.2	5.5	2,949	175		
27	5/27/21	95.9	95.0	95.3	91.0						2,781	156		
28	5/28/21	98.3	95.0	92.0	91.0						3,200	273		
29	5/29/21	98.3	95.0	93.3	91.0		274.0	90.0			2,644	184	2,971	221
30	5/30/21	97.1	95.0	88.8	91.0						2,934	186		
31	5/31/21	96.9	95.0	82.4	91.0	52.8	22.9	26.0			3,049	210		
Minimum														
Maximum														
Total														
Average														
Geo Mean														
Limits														
Exceptions														

Savanna 101 and 201 DMR Report Summary

May 2021

Day	Day of Week/Date	Eff Flow, Plant (Outfall 101)	Eff Plant Flow, Week Avg (101)	Bypass pH (Outfall 201)	Bypass Load TSS (Outfall 201)	Bypass Load TSS (Outfall 201) WAVG	Bypass TSS Conc (Outfall 201)	Bypass TSS Conc (Outfall 201) WAVG	Bypass NH3-N Load (Outfall 201) Lbs	Bypass NH3-N Load (Outfall 201) WAVG	Bypass NH3-N Conc (Outfall 201)	Bypass NH3-N Conc (Outfall 201) WAVG	Eff Flow, Bypass (Outfall 201)	Eff Flow, Bypass (201), Weekly Avg
		MGD	MGD	SU	lbs/d	lbs/d	mg/L	mg/L	lbs	lbs/d	mg/L	mg/L	MGD	MGD
		2200	2206	20141	20125	20126	20121	20122	20135	20136	20131	20132	20101	20102
1	Sat 5/1/21	44.4											0.0	
2	Sun 5/2/21	48.6											0.0	
3	Mon 5/3/21	51.5											0.0	
4	Tue 5/4/21	53.9											0.0	
5	Wed 5/5/21	45.6		7.0	14,939		33.0		10,503		23.2		54.3	
6	Thu 5/6/21	44.6		6.2	3,551		29.0		2,228		18.2		14.7	
7	Fri 5/7/21	47.7		6.1	613		19.0		504		15.6		3.9	
8	Sat 5/8/21	48.2	48.6			6,368		27.0		4,411		19.0	0.0	10.4
9	Sun 5/9/21	49.8											0.0	
10	Mon 5/10/21	50.8											0.0	
11	Tue 5/11/21	50.2											0.0	
12	Wed 5/12/21	48.7											0.0	
13	Thu 5/13/21	42.1											0.0	
14	Fri 5/14/21	44.5											0.0	
15	Sat 5/15/21	45.6	47.4										0.0	0.0
16	Sun 5/16/21	43.0											0.0	
17	Mon 5/17/21	41.9		6.7	11,422		35.5		6,532		20.3		38.6	
18	Tue 5/18/21	31.4		6.5	10,668		38.0		6,232		22.2		33.7	
19	Wed 5/19/21	30.3		6.3	7,724		26.0		5,674		19.1		35.6	
20	Thu 5/20/21	43.9		7.0	6,800		28.0		3,084		12.7		29.1	
21	Fri 5/21/21	40.9		7.0	3,315		26.0		1,441		11.3		15.3	
22	Sat 5/22/21	44.2	39.4	7.0	442	6,729	25.0	29.8	216	3,863	12.2	16.3	2.1	22.1
23	Sun 5/23/21	45.3											0.0	
24	Mon 5/24/21	30.2											0.0	
25	Tue 5/25/21	42.8											0.0	
26	Wed 5/26/21	40.6											0.0	
27	Thu 5/27/21	37.5											0.0	
28	Fri 5/28/21	46.8											0.0	
29	Sat 5/29/21	44.0	41.0										0.0	0.0
30	Sun 5/30/21	44.5											0.0	
31	Mon 5/31/21	44.9											0.0	
Minimum		30.2	39.4	6.1	442	6,368	19.0	27.0	216	3,863	11.3	16.3	0.000	0.000
Maximum		53.9	48.6	7.0	14,939	6,729	38.0	29.8	10,503	4,411	23.2	19.0	54.280	22.100
Total		1,368.1	176.4	59.8	59,474	13,096	259.5	56.8	36,413	8,275	154.8	35.3	227.220	32.500
Average		44.14	44.1	6.6	6,608	6,549	28.8	28.4	4,046	4,137	17.2	17.7	7.332	8.125
Limits		Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report

Savanna 101 and 201 DMR Report Summary

May 2021

Day of Week/Date	Bypass Mercury (Outfall 201) mg/L 20151	Bypass Mercury Conc (Outfall 201) WAVG mg/L 20152	Bypass CBOD Load (Outfall 201) lbs/d 20115	Bypass CBOD Load (Outfall 201) WAVG lbs/d 20116	Bypass CBOD Conc (Outfall 201) mg/L 20111	Bypass CBOD Conc (Outfall 201) WAVG mg/L 20112
Sat 5/1/21						
Sun 5/2/21						
Mon 5/3/21						
Tue 5/4/21						
Wed 5/5/21			17,338		38.3	
Thu 5/6/21	0.00		4,518		36.9	
Fri 5/7/21			878		27.2	
Sat 5/8/21		0.00		7,578		34.1
Sun 5/9/21						
Mon 5/10/21						
Tue 5/11/21						
Wed 5/12/21						
Thu 5/13/21						
Fri 5/14/21						
Sat 5/15/21						
Sun 5/16/21						
Mon 5/17/21			14,640		45.5	
Tue 5/18/21			13,840		49.3	
Wed 5/19/21			14,141		47.6	
Thu 5/20/21			7,650		31.5	
Fri 5/21/21			3,354		26.3	
Sat 5/22/21			449	9,012	25.4	37.6
Sun 5/23/21						
Mon 5/24/21						
Tue 5/25/21						
Wed 5/26/21						
Thu 5/27/21						
Fri 5/28/21						
Sat 5/29/21						
Sun 5/30/21						
Mon 5/31/21						
Minimum	0.00	0.00	449.1	7,577.9	25.4	34.1
Maximum	0.00	0.00	17,338.2	9,012.2	49.3	37.6
Total	0.00	0.00	76,807.0	16,590.1	328.0	71.7
Average	0.00	0.00	8,534.2	8,295.0	36.4	35.9
Limits	Report	Report	Report	Report	Report	Report

Trahon DMR Report Summary

May 2021

	Final Eff. D.O. Conc	Aeration DO Min All Oxidation Ditches	Aeration DO Max All Oxidation Ditches	Eff BOD Load	Eff BOD Load NPDES Week Avg	Eff BOD Conc	Eff BOD Conc NPDES Week Avg	Inf BOD Load	Inf BOD Load NPDES Week Avg	Inf BOD Conc	Inf BOD Conc NPDES Week Avg	Eff pH	Eff TSS Load	Eff TSS Load NPDES Week Avg	Eff TSS Conc	Eff TSS Conc NPDES Week Avg
Date	2252 mg/l	3324 mg/l	3325 mg/l	2235 lbs/day	2262 lbs/day	2208 mg/l	2275 mg/l	1124 lbs/day	1132 lbs/day	1106 mg/l	1152 mg/l	2229 SU	2234 lbs/day	2261 lbs/day	2202 mg/l	2274 mg/l
5/1/2021	8.3	0.7	1.2									7.4				
5/2/2021	8.0	0.6	1.3	201.7		9		9,197		401		7.4	222.6		9.6	
5/3/2021	7.9	0.2	0.8	216.4		9		6,114		237		7.4	196.8		8.0	
5/4/2021	8.0	0.2	0.7	138.2		5		2,415		94		7.3	158.0		5.6	
5/5/2021	8.2	1.3	1.6									7.4				
5/6/2021	8.3	0.7	1.1									7.3				
5/7/2021	8.2	0.7	1.1									7.3				
5/8/2021	8.0	0.5	1.2		185		7		5,909		244	7.4		192		8
5/9/2021	7.4	0.4	1.0	127.1		5		1,727		65		7.5	193.4		7.0	
5/10/2021	8.0	0.4	0.8	129.6		5		1,819		60		7.4	202.8		7.2	
5/11/2021	8.0	0.4	1.0	96.7		4		1,632		56		7.4	112.8		4.2	
5/12/2021	8.0	0.8	1.1									7.4				
5/13/2021	8.9	1.2	1.5									7.3				
5/14/2021	8.2	0.9	1.2									7.3				
5/15/2021	7.2	0.9	1.4		118		4		1,726		60	7.3		170		6
5/16/2021	6.8	0.6	1.1	145.2		7		5,037		194		7.4	303.2		14.2	
5/17/2021	7.9	0.4	0.9									7.4				
5/18/2021	7.9	0.5	1.1	152.6		6		2,782		99		7.5	61.0		2.4	
5/19/2021	7.9	0.7	1.1	119.3		5		2,037		69		7.4	254.2		9.8	
5/20/2021	7.9	0.6	0.9									7.4				
5/21/2021	8.1	0.6	1.1									7.4				
5/22/2021	8.0	0.7	1.1		139		6		3,286		121	7.4		206		9
5/23/2021	7.9	0.5	1.1	154.3		7		3,280		117		7.4	149.7		6.6	
5/24/2021	7.9	0.5	1.1	114.3		5		3,031		109		7.4	45.7		2.0	
5/25/2021	7.8	0.4	0.9	108.8		5		3,162		122		7.5	169.8		7.8	
5/26/2021	7.9	0.4	1.0									7.4				
5/27/2021	8.0	0.4	0.8									7.6				
5/28/2021	7.7	0.2	0.8									7.5				
5/29/2021	6.7	0.2	1.2		126		6		3,157		116	7.5		122		5
5/30/2021	6.7	0.3	1.0									7.5				
5/31/2021	7.7	0.4	1.1	84.5		5		2,884		162		7.6	84.5		4.8	
Minimum	6.7	0.2	0.7	84	118	4	4	1,632	1,726	56	60	7.3	46	122	2	5
Maximum	8.9	1.3	1.6	216	185	9	7	9,197	5,909	401	244	7.6	303	206	14	9
Total				1,789	568	74	23	45,117	14,078	1,784	541		2,154	690	89	28
Average	7.9	0.6	1.1	138	142	6	6	3,471	3,520	137	135	7.4	166	173	7	7
Geo Mean																
Limits	6.0	Report	Report	375	563	10	15	Report	Report	Report	Report	6	1126	1689	30	45
Exceptions	0	Report	Report	0	0	0	0	Report	Report	Report	Report	9	0	0	0	0
Total Exceptions												0				
												1				

Trahon DMR Report Summary

May 2021

	Inf TSS Load	Inf TSS Load NPDES Week Avg	Inf TSS Conc	Inf TSS Conc NPDES Week Avg	Eff TN Load	Eff TN Load Week Avg	Eff TN Conc	Eff TN Conc Week Avg	Eff NH3-N Load	Eff NH3-N Load NPDES Week Avg	Eff NH3-N Conc	Eff NH3-N Conc WAVG
Date	1123 lbs/day	1131 lbs/day	1103 mg/l	1151 mg/l	2237 lbs/day	2264 lbs/day	2221 mg/l	2277 mg/l	2236 lbs/day	2263 lbs/day	2213 mg/l	2215 mg/L
5/1/2021												
5/2/2021	3,761.0		600.0		169.3		7.3		2.3		0.1	
5/3/2021	9,566.0		370.0		54.1		2.2		2.5		0.1	
5/4/2021	5,651.2		220.0		81.8		2.9		2.8		0.1	
5/5/2021												
5/6/2021												
5/7/2021												
5/8/2021		9,659		397		102		4.13		3		0.1
5/9/2021	1,780.1		66.7		204.5		7.4		2.8		0.1	
5/10/2021	1,050.5		34.7		211.2		7.5		2.8		0.1	
5/11/2021	796.9		27.3		762.7		28.4		2.7		0.1	
5/12/2021												
5/13/2021												
5/14/2021												
5/15/2021		1,209		43		393		14.43		3		0.1
5/16/2021	6,432.5		248.0		217.8		10.2		2.1		0.1	
5/17/2021												
5/18/2021	2,923.0		104.0		249.3		9.8		2.5		0.1	
5/19/2021	2,877.0		98.0		352.7		13.6		2.6		0.1	
5/20/2021												
5/21/2021												
5/22/2021		4,077		150		273		11.20		2		0.1
5/23/2021	3,520.3		126.0		301.7		13.3		2.3		0.1	
5/24/2021	2,729.8		98.0		281.1		12.3		2.3		0.1	
5/25/2021	3,174.5		122.0		239.4		11.0		2.2		0.1	
5/26/2021												
5/27/2021												
5/28/2021												
5/29/2021		3,142		115		274		12.20		2		0.1
5/30/2021												
5/31/2021	2,427.3		136.0		52.8		3.0		1.8		0.1	
Minimum	797	1,209	27	43	52.79	102	2.2	4.13	2	2	0.1	0.1
Maximum	13,761	9,659	600	397	762.68	393	28.4	14.43	3	3	0.1	0.10
Total	56,690	18,087	2,251	705	3,178.35	1,042	128.9	41.96	32	10	1.3	0.4
Average	4,361	4,522	173	176	244.49	261	9.9	10.49	2	3	0.1	0.1
Geo Mean												
Limits	Report	Report	Report	Report	Report	Report	Report	Report	75	113	2	3
Exceptions	Report	Report	Report	Report	Report	Report	Report	Report	0	0	0	0

Trahon DMR Report Summary

May 2021

	Inf NH3-N Load	Inf NH3-N Load NPDES S Week Avg	Inf NH3-N Conc	Inf NH3-N Conc NPDES Week Avg	Eff TP Load	Eff TP Load Week Avg	Eff TP Conc	Eff TP Conc Week Avg	Eff Zn Conc	Eff Zn Conc NPDES Week Avg	Eff Cu Conc	Eff Cu Conc NPDES Week Avg
Date	1125 lbs/day	1133 lbs/day	1108 mg/l	1153 mg/l	2238 lbs/day	2265 lbs/day	2225 mg/l	2278 mg/l	2295 mg/l	2296 mg/l	2239 mg/l	2279 mg/l
5/1/2021												
5/2/2021	364.7		15.9		55.6		2.4					
5/3/2021	333.5		12.9		54.1		2.2					
5/4/2021	259.4		10.1		59.2		2.1		0.249		0.002	
5/5/2021												
5/6/2021												
5/7/2021												
5/8/2021		319.0		13.0		56		2.23		0.249		0.002
5/9/2021	346.9		13.0		93.9		3.4					
5/10/2021	330.0		10.9		90.1		3.2					
5/11/2021	356.1		12.2		118.2		4.4					
5/12/2021												
5/13/2021												
5/14/2021												
5/15/2021		344.0		12.0		101		3.67				
5/16/2021	389.1		15.0		83.3		3.9		0.020			
5/17/2021												
5/18/2021	303.5		10.8		91.6		3.6		0.021			
5/19/2021	322.9		11.0		88.2		3.4					
5/20/2021												
5/21/2021												
5/22/2021		339.0		12.0		88		3.63		0.020		
5/23/2021	352.0		12.6		88.5		3.9					
5/24/2021	367.7		13.2		89.1		3.9		0.021			
5/25/2021	387.7		14.9		91.4		4.2					
5/26/2021												
5/27/2021									0.024			
5/28/2021												
5/29/2021		369.0		14.0		90		4.00	0.020	0.022		
5/30/2021												
5/31/2021	314.1		17.6		22.9	26	1.3	1.45				
Minimum	259.4	319.0	10.1	12	22.9	26	1.3	1.45	0.020	0.020	0.002	0.002
Maximum	389.1	369.0	17.6	14	118.2	101	4.4	4.00	0.249	0.249	0.002	0.002
Total	4,427.8	1,371.0	170.1	51	1,026.1	361	41.9	14.98	0.355	0.291	0.002	0.002
Average	340.6	342.8	13.1	13	78.9	72	3.2	3.00	0.059	0.097	0.0019	0.002
Geo Mean												
Limits	Report	Report	Report	Report	Report	Report	Report	Report	0.065	0.065	0.005	0.007
Exceptions	Report	Report	Report	Report	Report	Report	Report	Report	0	1	0	0

Trahan DMR Report Summary

May 2021

	Eff Flow	Eff Flow NPDES Week Avg	Eff Post SO2 TRC (Final)	Eff Cl2 Res. Conc NPDES Week Avg	Fecal Coliform	Fecal Coliform NPDES Mo GM	Fecal Coliform NPDES Week GM	BOD NPDES Percent Removal	TSS NPDES Percent Removal	Aer NPDES Min Sett Solids	Aer NPDES Max Sett Solids
Date	2200 MGD	2266 MGD	2247 mg/l	2280 mg/l	2240 col/100ml	2245 CFU/100ml	2242 FU/100m	2290 %	2291 %	3333 mL/L	3334 mL/L
5/1/2021	2.7		ND0.00								
5/2/2021	2.8		ND0.00								
5/3/2021	2.9		ND0.00		8						
5/4/2021	3.4		ND0.00		16						
5/5/2021	3.5		ND0.00		20						
5/6/2021	2.9		ND0.00								
5/7/2021	2.8		ND0.00								
5/8/2021	2.9	3.000	ND0.00	0.000			14				
5/9/2021	3.3		ND0.00								
5/10/2021	3.4		ND0.00		20						
5/11/2021	3.2		ND0.00		28						
5/12/2021	3.4		ND0.00		18						
5/13/2021	3.0		ND0.00								
5/14/2021	2.9		ND0.00								
5/15/2021	2.7	3.100	ND0.00	0.000			22				
5/16/2021	2.6		ND0.00								
5/17/2021	2.8		ND0.00		12						
5/18/2021	3.1		ND0.00								
5/19/2021	3.1		ND0.00		155						
5/20/2021	3.1		ND0.00		18						
5/21/2021	2.9		ND0.00								
5/22/2021	2.8	2.900	ND0.00	0.000			32				
5/23/2021	2.7		ND0.00								
5/24/2021	2.7		ND0.00		20						
5/25/2021	2.6		ND0.00		10						
5/26/2021	2.3		ND0.00		14						
5/27/2021	2.2		ND0.00								
5/28/2021	2.3		ND0.00								
5/29/2021	2.3	2.500	ND0.00	0.000			14				
5/30/2021	2.1		ND0.00								
5/31/2021	2.1		ND0.00			19.00		95.6	96	400.00	600
Minimum	2.1	2.500	ND0.00	0.000	8	19	14	96	96	400	600
Maximum	3.5	3.100	ND0.00	0.000	155	19	32	96	96	400	600
Total	87.6	11.500	ND0.00	0.000	339	19	82	96	96	400	600
Average	2.8	2.875	ND	0.000	28	19	21	96	96	400	600
Geo Mean					19						
Limits	4.5	Report	0.011	0.019	200	200	400	85	85	Report	Report
Exceptions	0	Report	0	0	0	0	0	0	0	Report	Report

Trahon DMR Report Summary

May 2021

	Inf TN Conc	Inf TN Conc NPDES Week Avg	Inf TN Load	Inf TN Load NPDES Week Avg	Inf TP Conc	Inf TP Conc NPDES Week Avg	Inf TP Load	Inf TP Load NPDES Week Avg
Date	1111 mg/l	1154 mg/l	1126 lbs/day	1134 lbs/day	1112 mg/l	1155 mg/l	1127 lbs/day	1135 lbs/day
5/1/2021								
5/2/2021	41.7		956.4		5.8		133.0	
5/3/2021								
5/4/2021								
5/5/2021								
5/6/2021								
5/7/2021								
5/8/2021		42		956		6		133
5/9/2021	2.5		66.7		3.0		80.1	
5/10/2021								
5/11/2021								
5/12/2021								
5/13/2021								
5/14/2021								
5/15/2021		2		67		3		80
5/16/2021	35.9		931.2		6.8		176.4	
5/17/2021								
5/18/2021								
5/19/2021								
5/20/2021								
5/21/2021								
5/22/2021		36		931		7		176
5/23/2021	27.0		754.4		5.3		148.1	
5/24/2021								
5/25/2021								
5/26/2021								
5/27/2021								
5/28/2021								
5/29/2021		27		754		5		148
5/30/2021								
5/31/2021								
Minimum	3	2	67	67	3	3	80	80
Maximum	42	42	956	956	7	7	176	176
Total	107	107	2,709	2,708	21	21	538	537
Average	27	27	677	677	5	5	134	134
Geo Mean								
Limits	Report	Report	Report	Report	Report	Report	Report	Report
Exceptions	Report	Report	Report	Report	Report	Report	Report	Report

Presidential Hills DMR Report Summary

May, 2021

	Eff Oxygen, dissolved mg/L	Eff BOD5, Lbs	Eff BOD WKLY AVG	Eff BOD5 mg/L	Eff BOD5, mg/L WAVG	Inf BOD5, Lbs	Inf BOD WKLY AVG	Inf BOD5 mg/L	Inf BOD5, mg/L WAVG	Eff pH	Eff TSS, Lbs	Eff TSS WKLY AVG	Eff TSS
Date	mg/L 201561	lbs 201197	lbs/day 920053	mg/L 201191	mg/L 201194	Lbs 200194	lbs/day 920054	mg/L 200191	mg/L 200192	SU 201381	lbs 201696	lbs/day 920055	mg/L 201691
5/1/2021													
5/2/2021													
5/3/2021	7.2									7.070			
5/4/2021	6.8									7.060			
5/5/2021	6.9									6.920			
5/6/2021	7.2									6.890			
5/7/2021	7.7									6.700			
5/8/2021													
5/9/2021													
5/10/2021	7.3									6.810			
5/11/2021	7.0									6.970			
5/12/2021	6.6									6.670			
5/13/2021	7.9									7.010			
5/14/2021	7.2									7.010			
5/15/2021													
5/16/2021													
5/17/2021	7.4									7.080			
5/18/2021	6.5									7.070			
5/19/2021	8.0	8.457		2.6		761		234		6.880	28.623		8.8
5/20/2021	7.8									7.120			
5/21/2021	6.5									6.970			
5/22/2021			8.457		2.6		761		234			28.62	
5/23/2021													
5/24/2021	7.6									6.910			
5/25/2021	6.1									7.160			
5/26/2021	6.7									6.790			
5/27/2021	6.4									6.770			
5/28/2021	7.0									7.200			
5/29/2021													
5/30/2021													
5/31/2021	6.1									7.150			
Minimum	6.1	8	8	3	3	761	761	234	234	6.7	28.6	28.6	9
Maximum	8.0	8	8	3	3	761	761	234	234	7.2	28.6	28.6	9
Total	147.9	8	8	3	3	761	761	234	234	146.2	28.6	28.6	9
Average	7.0	8	8	3	3	761	761	234	234	7.0	28.6	28.6	9
Geo Mean													
Limits	6.0	37.5	56.3	6	9	Report	Report	Report	Report	6.0	187.7	281.5	30
										9.0			
Exceptions	0	0	0	0	0	Report	Report	Report	Report	0	0	0	0
										0			

Total Exceptions	0
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Presidential Hills DMR Report Summary

May, 2021

	Eff TSS, mg/L WAVG	Inf TSS Lbs	Inf TSS Lbs WAVG	Inf TSS mg/L	Inf TSS mg/L WAVG	Inf TSS mg/L WAVG	Inf TSS mg/L WAVG	Inf TSS mg/L WAVG	Eff TN (as N), mg/L	Eff TN (as N), Weekly Average	Eff TN (as N), Loading	Eff TN, lbs/day weekly
Date	mg/L 201694	Lbs 200694	Lbs 200695	mg/L 200691	mg/L 200692	mg/L 200692	mg/L 200692	mg/L 200692	mg/L 201531	mg/L 201532	Lbs/day 201534	Lbs/day 920093
5/1/2021										6.420		14.99
5/2/2021												
5/3/2021												
5/4/2021												
5/5/2021												
5/6/2021												
5/7/2021												
5/8/2021												
5/9/2021												
5/10/2021												
5/11/2021												
5/12/2021												
5/13/2021												
5/14/2021												
5/15/2021												
5/16/2021												
5/17/2021												
5/18/2021												
5/19/2021		1,295		398					4.260		13.856	
5/20/2021												
5/21/2021												
5/22/2021	8.8		1,295		398	398	398	398		4.260		13.86
5/23/2021												
5/24/2021												
5/25/2021												
5/26/2021												
5/27/2021												
5/28/2021												
5/29/2021												
5/30/2021												
5/31/2021												
Minimum	9	1,295	1,295	398	398	398	398	398	4.26	4.26	13.86	13.86
Maximum	9	1,295	1,295	398	398	398	398	398	4.26	6.42	13.86	14.99
Total	9	1,295	1,295	398	398	398	398	398	4.26	10.68	13.86	28.85
Average	9	1,295	1,295	398	398	398	398	398	4.26	5.34	13.86	14.42
Geo Mean												
Limits	45	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report
Exceptions	0	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report	Report

Presidential Hills DMR Report Summary

May, 2021

	Eff Ammonia (as N), Lbs	Eff NH3-N WKLY AVG	Eff Ammonia (as N), mg/L	Eff Ammonia (as N), WAVG	Inf Ammonia (as N), Lbs	Inf Ammonia (as N), Lbs WAVG	Inf Ammonia (as N), mg/L	Inf Ammonia (as N), mg/L WAVG	Eff TP	Eff TP, mg/l weekly	Eff TP, lbs/day	Eff TP, lbs/day Weekly
Date	lbs 201146	lbs/day 920056	mg/L 201141	mg/L 201144	Lbs 200144	Lbs 200145	mg/L 200141	mg/L 200142	(mg/l) 920073	(mg/l) 920094	Lbs/day 920095	Lbs/day 920096
5/1/2021										1.31		3.06
5/2/2021												
5/3/2021												
5/4/2021												
5/5/2021												
5/6/2021												
5/7/2021												
5/8/2021												
5/9/2021												
5/10/2021												
5/11/2021												
5/12/2021												
5/13/2021												
5/14/2021												
5/15/2021												
5/16/2021												
5/17/2021												
5/18/2021												
5/19/2021	0.33		0.1		59.20		18.2		1.77		5.76	
5/20/2021												
5/21/2021												
5/22/2021		0.33		0.100		59.20		18.20		1.77		5.76
5/23/2021												
5/24/2021												
5/25/2021												
5/26/2021												
5/27/2021												
5/28/2021												
5/29/2021												
5/30/2021												
5/31/2021												
Minimum	0.33	0.33	0.1	0.1	59.20	59.20	18.2	18.20	1.77	1.31	5.76	3.06
Maximum	0.33	0.33	0.1	0.1	59.20	59.20	18.2	18.20	1.77	1.77	5.76	5.76
Total	0.33	0.33	0.1	0.1	59.20	59.20	18.2	18.20	1.77	3.08	5.76	8.82
Average	0.33	0.33	0.1	0.1	59.20	59.20	18.2	18.20	1.77	1.54	5.76	4.41
Geo Mean												
Limits	9.40	14.10	1.5	2.25	Report	Report	Report	Report	Report	Report	Report	Report
Exceptions	0	0	0	0	Report	Report	Report	Report	Report	Report	Report	Report

Presidential Hills DMR Report Summary

May, 2021

	Effluent Flow	Effluent Flow Weekly Average	Eff Chlorine Total residual,	Chlorine Total residual, mg/L; WeekAvg	E. coli , number per 100 mL20	Eff E.Coli, Monthly Geomean	Eff E.Coli, Weekly Geomean	Eff BOD5,% Removal	Eff TSS, % Removal
Date	MGD 201001	MGD 201002	mg/L 201271	mg/L 201274	No/100ml 201904	No/100ml 920071	No/100ml 201913	% 201200	% 201699
5/1/2021	0.27								
5/2/2021	0.27								
5/3/2021	0.27								
5/4/2021	0.44								
5/5/2021	0.48								
5/6/2021	0.41								
5/7/2021	0.39								
5/8/2021	0.40	0.38							
5/9/2021	0.48								
5/10/2021	0.50								
5/11/2021	0.34								
5/12/2021	0.39								
5/13/2021	0.30								
5/14/2021	0.27								
5/15/2021	0.27	0.36							
5/16/2021	0.26								
5/17/2021	0.34								
5/18/2021	0.32								
5/19/2021	0.39							99	98
5/20/2021	0.29				16				
5/21/2021	0.26								
5/22/2021	0.25	0.30					16		
5/23/2021	0.26								
5/24/2021	0.25								
5/25/2021	0.24								
5/26/2021	0.23								
5/27/2021	0.23								
5/28/2021	0.23								
5/29/2021	0.24	0.24							
5/30/2021	0.25								
5/31/2021	0.24	0.30				16			
Minimum	0.23	0.24			16	16	16	99	98
Maximum	0.50	0.38			16	16	16	99	98
Total	9.76	1.58			16	16	16	99	98
Average	0.31	0.32			16	16	16	99	98
Geo Mean					16	16	16		
Limits	0.75	Report	0.011	0.019		126	410	85	85
Exceptions	0	Report	0	0		0	0	0	0

May 2021 BFI Leachate

DATE	LEACHATE	
May	GALLONS	HAULS
1		
2		
3		
4		
5		
6		
7	19532	4
8		
9		
10	19633	4
11	19619	4
12	14908	3
13	19767	4
14	19737	4
15		
16		
17		
18		
19	19873	4
20	19592	4
21	19692	4
22		
23		
24	19780	4
25	19899	4
26	19876	4
27		
28		
29		
30		
31	19924	4
TOTAL	251832	51

LEACHATE YEAR 2020-2021		
MONTH	GALLONS	UNITS
OCTOBER	133,740	28
NOVEMBER	137,823	28
DECEMBER	222,172	45
JANUARY	192,347	39
FEBRUARY	234,996	48
MARCH	345,720	70
APRIL	264,059	54
MAY	251,832	51
JUNE		
JULY		
AUGUST		
SEPTEMBER		
AVERAGE	222,836	45
TOTAL	1,782,689	363

May 2021 Haulers

Date	AAA SEPTIC		CRAIG'S		DIERS	
May	GALLONS	HAULS	GALLONS	HAULS	GALLONS	HAULS
1						
2						
3	2000	2			5000	5
4	1000	1			2000	2
5					2000	2
6	2000	2			4000	4
7			1000	1	3000	3
8						
9						
10	2000	2			6000	6
11	2000	2			6000	6
12	1000	1			5000	5
13					3000	3
14	1000	1			4000	4
15						
16						
17	1000	1			5000	5
18	1000	1			3000	3
19	1000	1	1000	1	5000	5
20					5000	5
21	3000	3			3000	3
22						
23						
24	1000	1	1000	1	4000	4
25	3000	3			5000	5
26	5000	5			5000	5
27	3000	3	1000	1	3000	3
28	3000	3			4000	4
29						
30						
31						
TOTAL	32000	32	4000	4	82000	82

DATE	DROP IT		FOX		GO POTTY	
May	GALLONS	HAULS	GALLONS	HAULS	GALLONS	HAULS
1						
2						
3			2000	2		
4	275	1			350	1
5					350	1
6						
7	200	1				
8						
9						
10			1000	1		
11			1000	1	350	1
12	275	1	1000	1		
13			2000	2		
14	250	1	1000	1	350	1
15						
16						
17			500	1	500	1
18			2000	2	200	1
19	300	1	2000	2		
20			1000	1		
21	250	1	3000	3	700	2
22						
23						
24			1000	1	350	1
25	300	1	1000	1	500	1
26			1000	1		
27			1000	1		
28	300	1	2000	2	500	1
29						
30						
31						
Total	2150	8	22500	23	4150	11

DATE	GOTTA GO		HALES		HILLARD	
May	GALLONS	HAULS	GALLONS	HAULS	GALLONS	HAULS
1						
2						
3	550	2	2000	2	5500	6
4	1250	3	2000	2	12000	12
5	250	1			3000	3
6	1750	4				
7	500	1	2000	2	2000	2
8						
9						
10	1500	4			7000	7
11	750	2	2000	2	9000	9
12	250	1	2000	2	5500	6
13	1250	3	1000	1	1000	1
14	1250	3			7500	8
15						
16						
17	750	2	3000	3	14000	14
18	1250	3	2000	2	4000	4
19	500	1	2000	2	3000	3
20	750	2	3000	3	2000	2
21	1250	3	1000	1	5000	5
22						
23						
24	1250	3	1000	1	3000	3
25					6500	7
26	500	1	4000	4	13000	13
27	1250	3			1000	1
28	1250	3	2000	2	4000	4
29						
30						
31						
Total	18050	45	29000	29	108000	110

DATE	McLIN		MEARS		PITRE	
May	GALLONS	HAULS	GALLONS	HAULS	GALLONS	HAULS
1						
2						
3						
4					5000	5
5						
6	1000	1				
7						
8						
9						
10						
11						
12						
13						
14	500	1				
15						
16						
17	500	1				
18						
19					4000	4
20						
21	500	1				
22						
23						
24	1000	1			1000	1
25						
26	500	1				
27	1000	1				
28	500	1				
29						
30						
31						
Total	5500	8	0	0	10000	10

DATE	REBEL		SEAL		SHEFFIELD	
May	GALLONS	HAULS	GALLONS	HAULS	GALLONS	HAULS
1						
2						
3			3000	3		
4					500	1
5			3000	3		
6			3500	4	500	1
7			5500	6	500	1
8						
9						
10			3000	3	500	1
11			4000	4		
12			2000	2	1500	2
13			4500	5	500	1
14			2500	3		
15						
16						
17			3500	4	500	1
18						
19			5000	5	500	1
20			2000	2	500	1
21			4000	5		
22						
23						
24			3000	3	500	1
25			3000	3	500	1
26			4000	5		
27			2500	3	1000	2
28			3000	3	800	2
29						
30						
31						
TOTAL			61000	66	8300	16

DATE	STANKIN RANKIN		21 FLUSHES		DAILY TOTALS			
May	GALLONS	HAULS	GALLONS	HAULS	GALLONS	HAULS		
1					0	0		
2					0	0		
3	1250	3	1,000	1	22,300	26		
4	500	2			24,875	30		
5					8,600	10		
6	500	1	3,000	3	16,250	20		
7	1250	3	1,000	1	16,950	21		
8					0	0		
9					0	0		
10	500	1			21,500	25		
11	250	1			25,350	28		
12			1,000	1	19,525	22		
13	750	2			14,000	18		
14			2,000	2	20,350	25		
15					0	0		
16					0	0		
17	750	2	2,000	2	32,000	37		
18			2,000	2	15,450	18		
19	750	2			25,050	28		
20	250	1	3,000	3	17,500	20		
21	500	1	1,000	1	23,200	29		
22					0	0		
23					0	0		
24	250	1	2,000	2	20,350	24		
25	1500	4	2,000	2	23,300	28		
26	250	1	2,000	2	35,250	38		
27	500	2	2,000	2	17,250	22		
28			2,000	2	23,350	28		
29					0	0		
30					0	0		
31					0	0		
TOTAL	9750	27	26,000	26	422,400	497		

May 2021 Total Haulers

VENDOR	\$		\$
AAA	\$394.00	MEARS	\$0.00
CRAIG'S	\$58.00	PITRE	\$130.00
DIERS	\$994.00	REBEL HIGH	\$0.00
DROP IT	\$106.00	SEALS	\$802.00
FOX	\$286.00	SHEFFIELD	\$202.00
GO POTTY	\$142.00	STANKIN RANKIN	\$334.00
GOTTA GO	\$550.00	WWC	\$0.00
HALES	\$358.00	21 FLUSHES	\$322.00
HILLARD	\$1,330.00		
MCLIN	\$106.00		
GRAND TOTAL	\$6,114.00		

Liquid Waste Hauler Yearly Receipts

MONTH	CITY OF JACKSON INVOICES
May 2021	\$6,114
April 2021	\$6,808
March 2021	\$7,202
Feb. 2021	\$5,034
Jan. 2021	\$4,788
Dec. 2020	\$5,342
Nov. 2020	\$5188
Oct. 2020	\$5968
Sept. 2020	\$5262
Aug. 2020	\$5492
Jul. 2020	\$5910
Jun. 2020	\$6726
May. 2020	\$6350

Appendix B
Savanna Wastewater Treatment Plant
Sludge Management Plan 2013

City of Jackson, Mississippi Sludge Management Plan

Introduction

The City of Jackson Savanna Street WWTP is a 46.0 MGD activated sludge plant with storm water holding lagoons. The plant stabilizes waste activated sludge by means of aerobic digestion. The digestion process produces thickened, liquid, stabilized organic bio-solids at a concentration of about 2% and dewatered of about 20%. The bio-solids meet the requirements established by Mississippi Department of Environmental Quality (MDEQ) and the US EPA for Land Application.

Sludge from the City's Trahon/Big Creek WWTP and Presidential Hills WWTP is hauled to the Savanna Street plant for processing. The Trahon/Big Creek WWTP is a 4.5 MGD oxidation ditch activated sludge plant. The wasted sludge from this facility is thickened in an aerobic digester prior to hauling. The Presidential Hills WWTP is a 0.75 MGD aerated lagoon activated sludge plant. It is being replaced by a sequencing batch reactor activated sludge plant that will start up in mid-2014. Sludge from the new plant will be conveyed to the Savanna Street plant.

The sludge de-watering operation utilizes the following basins and equipment to achieve Class B sludge: gravity thickener, two aerobic digesters, 3-2 meter belt filter presses (avg. 70 gals/min sludge feed rate), 1 centrifuge (avg. 250 gals/min sludge feed rate), and 1-2.2 meter belt filter press (avg. 450 gals/min sludge feed rate). Liquid polymer is used on all de-watering machines to achieve coagulation.

The selected method of sludge disposal is by surface land application at agronomic rates. All application sites are permitted for sludge application and all but one are privately owned by local farmers. The Management Plan is found below. This will include loading rates based on expected sludge quality and quantity, the crop selected by the land owner and limiting constituent for application. The anticipated limiting constituent is nitrogen. The plan will also include the application method, harvest requirements, monitoring, pollutant tracking and monitoring. When land application is not possible due to wet weather conditions, etc., de-watered sludge will be disposed of at the local landfill currently being operated by BFI.

The management plan is in compliance with the State and Federal reporting guidelines pertinent to 40 CFR 503 regulations, as well as on the findings of specific investigations, historical operational data and input from various United Water associates experienced in the land application of bio-solids. The management plan is applicable of bio-solids and those that are to be permitted in the future.

Management Plan

The dewatered sludge outlined in this program shall follow these buffer zone requirements:					
	Property Line	Waters of the State	Wells, Public/Private	Exterior Roadways	Dwellings
De-watered	200 ft.	200 ft.	500/250ft.	200 ft.	300 ft.
All soil pH levels will be monitored and adjusted accordingly by applying Lime					
Dewatered application of bio-solids will be applied to slopes of 6 to 12%.					
Bio-solids will be applied according to agronomic loading rates for each crop it is applied upon.					
Bio-solids will not be applied to flooded, frozen, or snow covered ground.					
Bio-solids will not be applied to land that adversely affect threatened or endangered species.					
No annual pollutant loading rate shall be exceeded.					
Signs will be posted that restrict access to the application sites.					
Bio-solids will not be stockpiled at the site unless in an enclosed tank or building for a period not to exceed 30 days.					
No grazing shall be allowed on the site for 30 days after bio-solids application.					
Public access to the site shall be restricted for 30 days when there is low potential for public exposure and one year when there is high potential for public exposure.					

Application Sites

This program currently includes 12 sites. They are labeled as follows:

Byram Landfill	Permitted for 560 acres
Kainz Property	Permitted for 137.3 acres
Varnado Property	Permitted for 34.7 acres
Mason Property	Permitted for 75.1 acres
Murphy Davis Property	Permitted for 298.8 acres
Holmes Property	Permitted for 261.8 acres
Fisher Property (Site #1)	Permitted for 150 acres
Fisher Property (Site #2)	Permitted for 109 acres
Berry Property	Permitted for 223.8 acres
Darden Property (Site #1)	Permitted for 624 acres
Darden Property (Site #2)	Permitted for 32 acres
Sullivan Property	Permitted for 208.4 acres

Sludge Quality

The main constituents of concern are nitrogen (including ammonia, total kjeldahl nitrogen, nitrates, and nitrites). Values for nitrogen were obtained from the previous years. Below are the sludge metal results annualized for the 2012 calendar year. All of the laboratory results below can be found on the laboratory's letterhead and the specific analytical method (also contained in annual 40 CFR 503 Report)

Dewatered Sludge

Metals	Ceiling Limits mg/kg	2012 Results
Arsenic	75	9.65
Cadmium	85	1.1
Chromium	3000	18.4
Copper	4300	186
Lead	840	17.4
Mercury	57	0.4
Molybdenum	75	9.7
Nickel	420	18.1
Selenium	100	15.1
Zinc	7500	290.8

Sludge Loading Rates

Nutrient Uptake Rate for Crops
lbs. / acre – year
(table 4-11, EPA Process Design Manual – Land Treatment of Municipal Wastewater)

	Nitrogen	Phosphorus	Potassium
Forage crops:			
Coastal Bermuda grass	356 – 600	31 – 40	201
Ryegrass	178 – 250	54 – 76	241 – 290
Tall fescue	134 - 290	27	268
Field crops:			
Corn	156 – 178	18 - 27	98
Cotton	67 – 98	13	36
Soybeans*	222	9 – 18	27 – 49
Wheat	143	13	18 - 40

* Legumes will also take nitrogen from the atmosphere.

Land application will be based on the EPA schedule 40 503 regulations that state the agronomic loading rate of plant available nitrogen for the selected crop will be met. The table below, current permitted fields, are planted in Coastal Bermuda grass. Bermuda grass has an uptake rate of 300 to 600 lbs. of plant available nitrogen per acre per year. The average total nitrogen is 7.8 percent of the organic sludge. We have selected 400 lbs. per acre as our maximum loading rate. Crop harvest will remove the nitrogen from the fields. Nitrogen will be mineralized over a 10 year period as regulated by the bio-solids requirements found in 391-3-6-.17. Ultimately, 56% of the total kjeldahl nitrogen is plant available over the 10 year period. The nitrates, nitrites, and ammonia are immediately plant available in the first year. The only part that would not be plant available would be lost through de-nitrification and volatilization.

The following table lists the percentage of mineralization:

Mineralization Table for bio-solids

Year 1	30%
Year 2	15%
Year 3	8%
Year 4	4%
Year 5	3%
Year 6	3%
Year 7	3%
Year 8	3%
Year 9	3%
Year 10	3%

We will use HACH WIMS and MS Excel to track and mineralize the nitrogen and all other constituents applied, including dry tons per acre. The programs are set up to track nitrogen for any crop that is planted and the corresponding nitrogen needs for that crop. They will also track all priority pollutants and forecasts the longevity of the sites.

Land Application Operations

The bio-solid application system has as its primary objective provision of adequate treatment of the WWTP sludge through the crop/soil system. A secondary goal is to maximize agricultural production. Operations are developed that remain consistent with these objectives.

An essential element of land application is a manager that can direct and oversee day to day operations. This person will schedule applications that will coincide with the harvest schedule of the land owner, and track the applications.

Site records will be kept at the wastewater treatment plant for the duration of the application and the 10 years beyond. Monitoring records will be kept of the sludge results, soil sample results and crop analyses as well as harvest records. Operational records that will be kept in the HACH WIMS computer program include:

- Dates of application
- Fields applied upon
- Volume of sludge applied
- Corresponding nitrogen and metal loadings
- Cumulative nitrogen (Excel) and metal loadings
- Annual dry tons applied per acre
- All sludge and soil lab analyses
- Lime applications in lbs./acre

Results for all monitoring and application activities will be submitted in the Annual Sludge Report submitted to EPA by January 31 of each year to contain pollutant concentrations, required certification statements, pathogen and vector attraction reduction requirement documentations, annual bio-solids application rate, site locations, acreages, and quantity applied to each site. In addition, the Annual Sludge Report will be submitted to the EPA by February 19 of each year.

The bio-solids will be slung via a tractor and pull behind ag-slinger soon after each hay crop is harvested. The 30 day waiting period before the next harvest will be honored by the land owner. The schedule for application will be decided through communication between the landowner and land application manager.

Sludge will not be applied during periods of rain. The privately owned Little Dixie Landfill operated by BFI will be used at that time by dewatering the bio-solids and disposing of them in the landfill. The soil will be sampled at least annually and more as necessary to bring the soil pH to the desired level.

PSRP

PSRP will be met by following Alternative 1 in the schedule 40 CFR 503 regulations.

This will be 6 fecal coliform samples using the geometric mean less than 2 million CFU per gram of bio-solids on a dry weight basis.

Vector Attraction Reduction

VSR will be met by following Option 10 in the schedule 40 CFR 503 regulations by the following method.

Bio-solids will be incorporated into the soil within 6 hours of application to or placement on the land. Incorporation will be accomplished by plowing or some other means of mixing the bio-solids into the soil.

Bio-solids Application

Bio-solids will be loaded at the sludge loading station as a dewatered material at approximately 20% into the semi-dump trailer. The bio-solids will then be transported to the site where it will be surface spread and slung via a tractor and pull behind ag-slinger.

The primary choice of bio-solid land application will be conducted utilizing a tractor and ag-slinger. The first step in this process will be to de-water the bio-solids from an estimated 2% solids from the solids holding tank to an estimated 20% solids utilizing belt filter presses and centrifuge located at the wastewater facility. The bio-solids will be loaded into a semi truck and trailer utilizing a front end loader and conveyor belt system extending from the belt filter presses. When the trailer has been filled with de-watered sludge, estimated to be between 18 and 20 tons, the trailer will be hauled to the pre-determined application site for that particular day. We will then dump the sludge on the designated dump site. A front end loader will pick up the sludge from the dump site and empty its bucket into the ag-slinger. The tractor will then proceed into the field and after reaching the field start site, the tractor operator will engage the ag-slinger as to begin spreading the sludge in the crop row direction. The ag-slinger will spread the sludge on both sides of the machine approximately 60 feet outward. After the crop has been completely land applied to, or the daily allotted volume of sludge has been utilized and the only remnants of product to remain in the dump site is small pieces and insignificant volumes to begin another spread cycle, the dump area will be thoroughly cleaned by the front end loader and utilization of hand tools such as rakes and shovels if necessary.

The tractor, ag-spreader, and dump site will be cleaned on a daily basis. At no time will equipment show visible signs of sludge or recent activities of spreading. When it becomes necessary to move the equipment from one application site to another, not only will the before mentioned equipment be thoroughly cleaned, but all transport equipment will be inspected and cleaned as well.

During periods of adverse weather conditions, or times that would not be advantageous to the land owners for land application, all bio-solids will be de-watered as previously explained and the sludge will be transported and disposed of in the Little Dixie Landfill.

All sludge disposed of via land application will be tracked and monitored for quality pertaining to the applicable current state and federal regulations as well as land applied volume measured in tonnage. As well, all sludge disposed of via land fill will be tracked and monitored for quality pertaining to the applicable current state and federal regulations as well as land filled volume measured in tonnage.

Sludge Monitoring Plan

Nutrients and Metals

The nutrient and metals analyses will be performed on an every other month basis in accordance with the annual dry tons. Representative samples will be collected to demonstrate compliance.

Vector Attraction Reduction

VSR will be met by following Option 10 in the schedule 40 CFR 503 regulations by the following method.

Bio-solids will be incorporated into the soil within 6 hours of application to or placement on the land. Incorporation will be accomplished by plowing or some other means of mixing the bio-solids into the soil.

Pathogen Reduction

PSRP will be met by following Alternative 1 in the schedule 40 CFR 503 regulations. This will be 6 fecal coliform samples using the geometric mean less than 2 million CFU per gram of bio-solids on a dry weight basis. Enough samples will be analyzed to truly represent pathogen reduction.

Appendix C

Veolia Standard Operating Procedures and Work Order Examples

1. Savanna High Flow Procedures SOP
2. Power Outage SOP
3. Take Blower Off Line SOP
4. Work Order – Emergency Lighting Monthly Inspection
5. Work Order – Monthly Crane Inspection

1. PURPOSE

The purpose of this procedure is to provide the operator with an overview of what to do when experiencing high flows at Savanna WWTP.

2. SCOPE

The objective of this high flow plan is to use best known practices to lessen potential adverse effects to the environment and human health; and to treat combined flows during wet weather events to at least some degree of treatment. Ideally, full treatment up to the wastewater plants permitted capacity should be accomplished prior to diverting and storing water in the storm cells and bypass channel. This allows for, at minimum, dis-infection of bypassed water compared with no treatment when overflows are experienced in the collection system.

3. GENERAL DESCRIPTION

The City of Jackson, MS (CoJ) Savanna St. WWTP receives and treats wastewater collected from most of the city and surrounding areas through the North Gate Structure, Caney Creek Structure, and the West Rankin Structures. This SOP will address overall facility operating strategy up to the design limits or capacity limits of the Mechanical Plant which is 46 MGD and more specifically the operating strategy for the Storm Lagoons. The Storm Lagoons were originally conventional lagoons (6) that treated wastewater for the CoJ in the 1960's. They were incorporated into the original design of the Mechanical Plant specifically to act as storm water holding, recovery or discharge along with the Mechanical Plant effluent as a combined effluent. Through major upgrades in the 1980's after the facility was flooded in April of 1979 the lagoons were modified, but retained their primary function for stormwater management. Storm water discharges are chlorinated and dechlorinated. Equipment failures, power failures, excessive collection system Inflow and Infiltration (I&I), heavy solids loading from the City's Water Treatment Plants, influent characteristics that cause a plant upset, or other operating conditions may limit the ability to process all flows and/or load entering facility through the Mechanical Plant. This will necessitate diversion of excess flow and/or load to the Storm Lagoons for storage, recovery to the Mechanical Plant, or Bypassing through Internal Outfall 201 and combining with the Mechanical Plant Internal Outfall 101 and discharging to the Pearl River as Outfall 001 described and regulated under the City's NPDES permit MS0024295. In the context of this SOP, Bypass or Bypassing is defined as any discharge through the Storm Lagoon Flume. Operational strategies are developed for year round use and may be modified by management based on current facility conditions, but are more relevant for seasonal wet weather. Operation of the Storm Lagoons is an integral part of the treatment facilities and will be operated as an essential process component of the facility. As of this revision, the Storm Lagoon has a maximum storage capacity of approximately 100 MG which is only two days of dry weather flows at this time of revision.

4. Facility Goals

1. Pump all influent flows entering the facility to proper treatment according to the normal sequence of unit processes.
2. Maximize treatment to all flows entering the facility.
3. Closely monitor, control and limit flow bypassed around treatment units or overflow.
4. Avoid damage to upstream and downstream private and public property.
5. Avoid facility damage.
6. Limit possible environmental and health impacts from bypass events.
7. Investigate and evaluate bypass incidents to find causes or to identify improvements to help in future high flow events

5. Process Performance Goals

1. Protect treatment plant from flooding and reduce flow bottlenecks
2. Limit solids washouts from clarifiers
3. Make operational adjustments to maximize flow through the treatment plant
4. Maintain control of influent wet well and influent pumping process
5. Maximize combined stormwater treatment during wet weather events by:
 - a. Capturing the maximum amount of combined storm flow in the storm cell lagoons
 - b. Bypassing combined storm flow when lagoons are full and the collection system flows remain high
 - c. Provide disinfection to bypasses combined storm flow (This alternative is better than allowing untreated discharges from manholes and life stations in the collection system)
 - d. Recovering stored storm water from the storm cells when weather conditions and plant capacity allow for recovery
 - e. Maintain storm cells lagoons at as low a level possible to provide maximum capacity for the next event.

6. SAFETY REQUIREMENTS

1. Always wear proper personal protective equipment while on site. This includes **safety glasses, steel-toed boots, and clothing.**

7. REFERENCE DOCUMENTS

1. Savanna NPDES permit.

8. RECORDKEEPING REQUIREMENTS

1. Maintain records of Diversion, Recovery, and Bypass flows as well as the Storm Lagoon levels for internal and future evaluation.
 - a. The paperwork and instructions for this is located in the Influent control room.
2. Ensure that all of the appropriate notifications are made to Regulators, Client, and Internal Company contacts.

9. PROCEDURES

- A. Under normal operating conditions, all flow will be accepted into the plant and processed routinely without problem. Preparation for high flows should be started early because flows can quickly increase with little time for reaction. Plant operators will implement methods to prepare for wet weather and high flow conditions in order to reduce the risk of a bypass.**

Some methods include:

- a. Reducing flow bottlenecks.
 - b. Temporarily altering operations conditions to maximize flow through available equipment.
 - c. Making adjustments to plant flow conditions in small increments to lessen the impact on the facility.
 - d. Placing screening and removal equipment in hand.
 - e. Ensure all emergency generators are operational.
 - f. Increase frequency of operator round to check for proper function of all equipment.
- B. The influent wet well level must be closely monitored and additional raw sewage pumps placed on line to maintain wet well level at safe operating depths. Additional pumps should be placed on line as early as possible to prevent flow surging and washout of solids in secondary clarifiers. During normal dry weather desired wet well level is between 10 and 15 feet. Prior to wet weather or high flows, operators should maintain a wet well level of 10 feet. As the wet well continues to increase additional pumps are placed online until one of the following conditions is met:**
- a. Maximum plant flow is exceeded
 - b. Headworks structure is near overflow
 - c. All available pumping equipment is online
- C. After all available pumping equipment is online and wet well continue to rise and reaches a level of 21 feet:**
- a. Discontinue any storm lagoon recovery or flows from diversion channel gates
 - b. Open the West Rankin gate #2 and close West Rankin gate #1 to allow diversion of West Rankin flow
- D. If wet well levels continue to rise and flow to the treatment plant has not been maximized.**
- a. Increase all online pump to 100% pumping speed
 - b. Discontinue dewatering process and sludge wasting to minimize in-plant recycle flows. (Verify with the Ops Manager before stopping dewatering and waste flows.)
 - c. Begin opening the 54 inch gate to allow diversion of some of the influent flow to the storm lagoon while still maintaining max flow to the treatment plant.
- E. If all available pumps are in service at 100% speed and the flow to the plant has been maximized and the wet well continues to rise above 23 feet, close the 54 inch gate and turn on pump #4 at minimum speed to allow diversion of flow into the storm lagoons and control the wet well level below 23 feet.**
- F. Once all available pumping equipment is online with max flow to the treatment plant and all available diversion flows to storm lagoons, restrict the north gate #1 to 5% to allow for storage in the collection system. If the wet well continues to rise, the north gate #1 should be further restricted in 1% increments until the gate is 100% shut. **NOTE: Shutting northgate****

completely is the final and last option. This should only be done in order to save the influent pumping station and treatment plant.

G. IF BYPASS IS REQUIRED.

- a. Start-up of bypass process.
 - i. Once a level of 9.8 feet is reached bypass may be initiated. To start bypass flow open the Bypass gate located at Cell #3.
- b. Operation adjustments to bypass flow.
 - i. The Operator will start sending Chlorine to the Bypass once it has started. This procedure is done in the Chlorine Control room where the valve is marked for Bypass. **The SOP for this is located on the wall of the Control room**
 - ii. Once there is weir overflow at the Bypass flume the operator will start the process of Dechlorination by turning the Sulfurnator on to the Bypass side.
 - iii. The Operator will proceed to turn on the diffusers located in the Bypass Flume located at the beginning of the flume and in the middle.

H. Inform Savanna Lab Manager. The following lab tests need to be run during bypass.

- i. Tests on bypass flow only.
 1. pH Grab sampling - Every day when discharging
 2. Dissolved Oxygen Grab sampling - Every day when discharging (This one is not for compliance)
 3. TSS Grab sampling - Every day when discharging
 4. Ammonia Grab sampling - Every day when discharging
 5. CBOD Grab sampling - Every day when discharging
 6. Mercury Grab sampling - monthly
 7. Flow - Continuous recorder
- ii. Tests required to run on the plant (a mixture of the plant effluent and bypass)
 1. pH Grab sampling - Daily
 2. TRC Grab sampling - Daily
 3. Fecal Coliform Grab sampling - Daily
 4. Dissolved Oxygen Grab sampling - Daily
 5. TSS Composite - Daily
 6. Ammonia Composite - Daily
 7. CBOD Composite - Daily
 8. Flow - Continuous recorder
 9. Total Nitrogen and Total Phosphorus - Composite - Daily
 10. WET testing - Composite - Quarterly
- iii. Test on effluent only, before mixing with bypass. (Not for compliance!)
 1. pH Grab sampling - Grab sampling - Daily
 2. Dissolved Oxygen Grab sampling - Daily
 3. TSS Grab sampling - Daily
 4. Ammonia Grab sampling - Daily
 5. CBOD Grab sampling - Daily
- b. Ending a bypass event and returning the plant to normal operation.
 - i. Project management will determine when a bypass can be stopped.

- c. Record keeping before, during and after high flow events.
- I. Post Bypass event - after the bypass event has ceased, following steps should be taken:**
 - a. Chemical feeds to bypass channel should be discontinued
 - b. Plant valve and gate settings returned to normal operating condition, in reverse order of shut down
 - c. North Gate #1 re-opened to 100%
 - d. Screenings and grit systems should return to auto control
 - e. Finally, when wet well levels are back within normal range, diverted water remaining in the bypass channel and storm lagoons should be recovered back to the treatment plant.
 - f. Resume dewatering process and sludge wasting
- J. Notification of proper entities**
 - a. Mississippi Department of Environmental Quality(MDEQ), and City of Jackson Wastewater Engineer is then notified by phone and with a follow up email that a Bypass has started.
 - b. A written report will be issued to MDEQ within 5 days of the initiation of a Bypass Event with copies forwarded to the City of Jackson Wastewater Engineer.
 - c. At the termination of a Bypass Event both verbal and written reports will be made to the MDEQ and the City of Jackson Wastewater Engineer.

Title: Savanna High Flow Procedures

1.0 REVIEW AND APPROVAL

Reviewer/Title	Revision No.	Review Date
	(#. #)	DD Mon YYYY
	(#. #)	DD Mon YYYY
	(#. #)	DD Mon YYYY

Approved by:	
Title:	
Date:	

2.0 CHANGE HISTORY

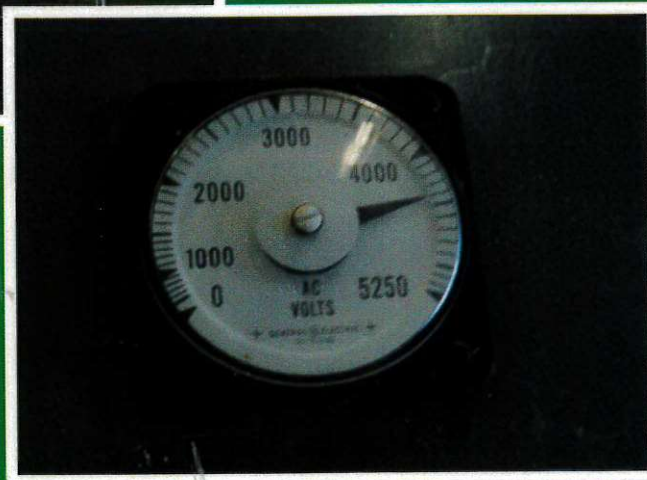
Revision No.	Summary of changes	Issue Date	Effective Date
1.0	Initial issuance	DD Mon YYYY	DD Mon YYYY
1.1 , 2.0, etc.		DD Mon YYYY	DD Mon YYYY

SAVANNA ST. WWTP

POWER OUTAGE

STANDARD OPERATING PROCEDURE

REVISED 5/2015



DEVIN SNYDER 5/19/2015

SAVANNA ST. WASTEWATER TREATMENT PLANT

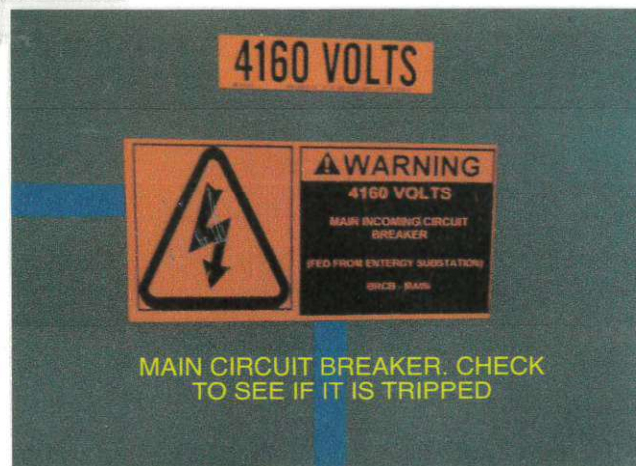
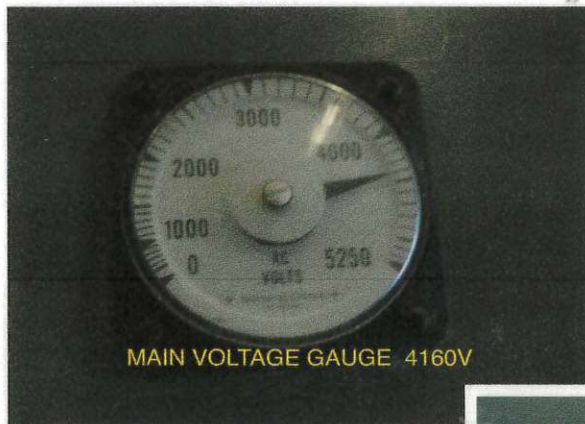
POWER OUTAGE – STANDARD OPERATING PROCEDURE

STEP #1: On call personnel must call all available maintenance members for assistance if the outage occurs during an off-shift. Use the number and account numbers listed below and call Entergy ASAP. Also, call Miles Corley with EMI to come assist during an emergency outage.

ENTERGY EMERGENCY CALL NUMBER 1-800-766-1648
ENTERGY ACCOUNT REP – LOUIS WRIGHT 601-351-4125
ENTERGY ACCOUNT NUMBERS: SAVANNA 17980806
TRAHON 19815521
P.HILLS 119477297
DEWATERING 14907620

EMI: MILES CORLEY 601-906-1644

STEP #2: Go to blower room line-up. Check main voltage gauge. If no power is present, check the main breaker to see if it is tripped (open) or closed. The main breaker is the first switch on the right, labeled BRCB-MAIN.



STEP #3: Upon arrival at the plant, OPEN all of the blower switchgear starters (BRSW-5, BRSW-6, BRSW-7, BRSW-8).

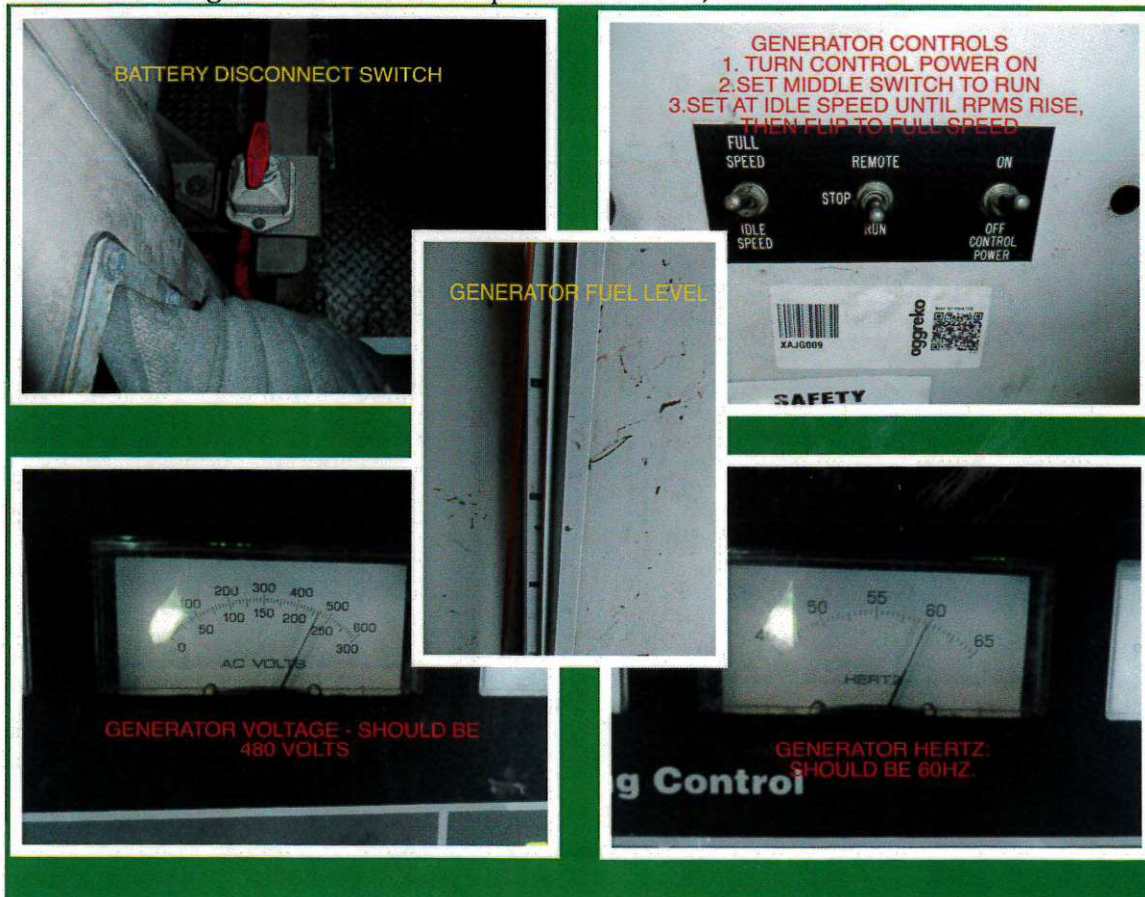


STEP #4: Open all of the other switchgears in the Blower room lineup. You will have to use the manual lever to open them (they are electrically interlocked).



CRANKING THE GENERATOR AND SWITCHING TO GENERATOR POWER:

STEP #5: Inside of the generator control room, turn on the battery disconnect switch. On the control panel: turn the first toggle switch to idle, the third toggle switch to 'on' (control power), the second toggle switch to 'run'. The roof louvers should open and the engine should crank. Once the engine RPMs settle, turn the first toggle to 'full speed'. Check the diesel fuel level in the tank using the sight tube. Make sure the generator has an output of 480 volts, 60 hz.



GENERATOR NOTES:

When adding load to the generator, watch the load % indicator in the control room to keep from overloading and tripping the generator.

If screw pumps (effluent) are needed, you may start two of them. The screw pumps **MUST** be started before the RAW sewage pumps due to their high starting current.

Make sure all of the doors to the generator are open to prevent overheating.

STEP #6: Go to 3rd level of RAW sewage (electrical floor). Open the main incoming feeder (normal power). Open all of the other switchgears in the line up : RSSW-2, RSSW-3, RSSW-4, RSSW-5, RSSW-6.



STEP #7: Go back to the generator and press the 'close' button on the control pad. This *should* transfer power automatically through the ATS. If power does not automatically transfer, you may need to try to close the generator power breaker with the handle. If power still does not transfer, the system does not have the 48 Volts required to do so. You may transfer power manually, but ensure that **no power** is present on the 'normal' and 'generator' breakers- You will need to press 'open' on the generator control pad, then manually close the generator breaker and manually open the normal power breaker. Now you can go back to the generator and press 'close' on the keypad. You should now have power.



STEP #8: Now that generator power is present, you may begin to close the switchgears at the raw sewage line-up, one at a time as follows : RSSW-2, RSSW-4, RSSW-5, RSSW-6. Once all of these are closed, you may start two 400HP RAW sewage pumps. You may also want to begin throttling the North gate to get the wet well under control (below 10'). Power should be restored to CL2, administration, and effluent as well.

Close
Normal Power
Switch
Baroc



STEP #9: It's now time to troubleshoot the outage. Why did the power go out? Was it something in our system? Were there any switchgears tripped? Is it an Entergy problem? Once we find the problem, we can isolate it and restore power to everything else- if the outage was caused by an internal failure. If it is verified that Entergy was at fault, they will restore power ASAP.

RETURNING TO ENTERGY POWER:

STEP #10: When all parties are ready to try going back on Entergy power : **CLOSE THE NORTH GATE** so that RAW doesn't flood during the switch-over.
Go back to RAW sewage. Turn off the pumps and open all switchgears again (RSSW-2, RSSW-4, RSSW-5, RSSW-6. Go to the generator and press 'open' on the control pad. This will remove the generator power. Leave the generator running for at least 30 minutes with no load to cool down.



STEP #11: Go to the blower room. Close the main breaker and check the main voltage gauge for 4160 volts. If power holds, close the switchgears as follows, one at a time: BRSW-1, BRSW-2, BRSW-3, BRSW-4, BRSW-9. **MAKE SURE TO WEAR ARC FLASH CLOTHING – DO NOT STAND DIRECTLY IN FRONT OF SWITCHGEAR DOOR WHEN ENERGIZING!**



STEP #12: Go to the blower control panels, they should now be energized. Press the **STOP** button on all control panels. This will allow the blowers to go back to the **STOP** position before energizing their respective switchgear starter. Once all blower control panels are in the **STOP/OFF** position, you may close : BRSW-5, BRSW-6, BRSW-7, BRSW-8. At this time, you may start two aeration blowers, one at a time.



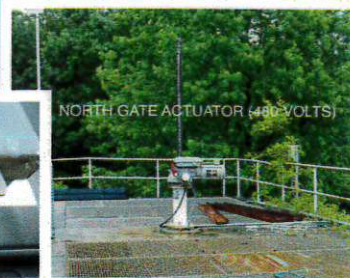
STEP #13: Go back to RAW sewage and close all of the switchgears, one at a time as follows: MAIN FEEDER, NORMAL POWER ATS BREAKER, RSSW-2, RSSW-3, RSSW-4, RSSW-5, RSSW-6. Start normal operation of pumps and open North gate.



STEP #14: Go through the whole plant and return equipment to service. Headworks, Old RAS, New RAS, Water Supply, Clarifiers, CL2, etc...

THINGS TO KEEP IN MIND:

The mobile emergency generator at the maintenance shop is equipped with a 480 Volt cord-and-plug system for emergency operation of the North gate. If the necessary manpower is available, mobilize the generator to the North gate and energize it to fully close the gate. The third disconnect at the North gate is equipped with the receptacle. You will need to manually transfer the power by opening disconnect #2, closing disconnect #3. This will help with the flooding of RAW sewage. Remember, even though the power is out, water is still flowing in unless we close it.



When everyone understands the expected tasks, we can avoid disasters and the process will be smooth. Stay calm and use this procedure!



Devin Snyder 5/19/2015

SAVANNA WWTP

TAKE BLOWER OFF LINE STANDARD OPERATING PROCEDURE



#6

For Administrative Purposes Only

CMIT No. _____ W.O. No. _____ W.O. Closed in JobCal? ☐ Date Closed: _____

SECTION 1 (to be complete by person identifying maintenance needs)

Date Identified: 10-26-20Equipment Location: ☐ Lift Stations ☒ Savanna WWTP ☐ Trahon WWTP ☐ Presidential Hills WWTPEquipment Location: Blower for Aeration ChamberEquipment Name: Blower #1

Equipment No.: _____

Initial Issue or Observation: TAKE blower out of service for D.O. REASONS +
INSPECTIONEmployee Name: BRICE MASSEY

SECTION 2 (to be complete by supervisor scheduling corrective maintenance)

Date Assigned: 10-26-20Lead Person: JACKIE KISERTask Priority: ☐ A - Critical (Immediate) ☐ B - Serious (Within 1 Week) ☒ C - As time permitsSpecial Assignment Notes: LOTO

SECTION 3 (to be complete by lead person, maintenance technician, or contractor responsible for task)

Work Completed (use back page if needed): Go thru proper shut down of Aeration
blower, take off line

LABOR		
Employee/Contractor Name	Date	Hours
JACKIE KISER		



EQUIPMENT LOCKOUT / ISOLATION PERMIT

Equipment Name: Blower #1

Date: 10-26-20

Reason for permit (nature of the work to be done): TAKE blower #1 out of service FOR P.D. AND INSPECTION REASONS

PREPLANNING

1. Identify energy sources (check if present):

Type of energy present

- a. Electrical
- b. Hydraulic
- c. Pneumatic
- d. Chemical
- e. Mechanical
- f. Thermal
- g. Other

Primary

Secondary

Stored

☒
☐
☐
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☐
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2. Determine and specify disconnect location and isolating devices to be used. Note: More than one energy source or point of isolation may be involved, so be sure that all are locked out, blocked or otherwise controlled. Use separate sheet if necessary to list all that apply. Be sure that all the energy sources identified in Step 1 have been addressed.

Isolation/Disconnect Location

AT 4160 switch GEAR breaker handle

Control Method

lock + TAG

INITIATING LOCKOUT/ISOLATION

(Check when complete)

- ☒ 3. Notify all affected personnel and area supervisor of the lockout plan.
- ☒ 4. If the equipment is operating, shut it down by the normal stopping procedure (stop button, toggle switch, etc.)
- ☒ 5. Operate the valve, electrical shut-off or other isolating device(s) as planned in step 2. Lockout the device(s) to prevent reactivation.
- ☒ 6. Dissipate stored energy such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, air or water pressure, or capacitors. If the energy cannot be dissipated, it must be blocked and/or restrained so that it cannot cause harm.
- ☐ 7. If there is a possibility of reaccumulation of stored energy, it must be checked periodically until the job is complete or until the accumulation hazard no longer exists. ☐ Yes ☐ No ☒ Not Applicable
- ☒ 8. Verify that the isolation and deenergization has been accomplished by attempting to start the equipment or testing with meter, gauges, etc. Be sure to return the operating control to the "neutral" or "off" position after the test.
- ☒ 9. All personnel working on the system must affix their lock to the lockout device.
- ☒ 10. The system is now deenergized and work may be performed.

JK
BH

Jack Kiser
Worker's Signature(s)

Ben Murray
Supervisor's Signature

REMOVING LOCKOUT/ISOLATION

- ☒ 11. After work is complete, check the area to assure that all tools have been removed, all personnel are clear and that all guards have been reinstalled.
- ☒ 12. Remove the lockout devices. Each worker must remove their own lock and identification tag.
- ☒ 13. Restore energy to the machine or equipment.
- ☒ 14. Notify affected personnel and area supervisor that the equipment has been returned to service.

JK
BH

Jack Kiser
Worker's Signature(s)

Ben Murray
Supervisor's Signature

LOCKOUT-TAGOUT PROCEDURES

PROCEDURE REFERENCE NUMBER: _____

EQUIPMENT: *Blower 4160 volt*

NUMBER: *#1*

NAME: *Blower #1*

LOCATION: *Blower Building*

PURPOSE *To shut down for D.O. AND SERVICE REASONS*

This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance, cleaning, servicing, or adjusting is done on facility equipment. This procedure will be used to ensure that the equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any maintenance where the unexpected energization or startup of the equipment or release of energy could cause injury.

COMPLIANCE WITH THIS PROCEDURE

All Veolia Water employees are required to comply with the restrictions and limitations imposed on them during the use of lockout. The authorized employees are required to perform the lockout in accordance with this procedure. All employees, upon observing a piece of equipment, which is locked and/or tagged out, will not attempt to start, energize, or use said equipment.

SEQUENCE OF LOCKOUT/TAGOUT

1. All affected employees will be notified by verbal and/or written that the equipment must be shut down and locked out to perform maintenance.

EMPLOYEES NAME	METHOD OF NOTIFICATION
<i>JACKIE KISER, BRIAN HINES</i>	<i>VERBAL</i>

2. The authorized employee will identify the type and magnitude of the energy that the equipment utilizes, will understand the hazards of the energy, and will know the methods to control the energy.

ENERGY

Type(s)	Magnitude	Specific Hazards	Method of Control
<i>Electrical</i>	<i>4160 volts</i>	<i>ARC Flash,</i>	<i>Proper positioning</i>

3. Shut down operating equipment by the normal stopping procedures (depress stop button, open switch, close valve, etc.).

EQUIPMENT OPERATING CONTROLS

TYPE(S)	LOCATION(S)
OPEN circuit on switch gear VOLTAGE 4160	FACING switch RIGHT side

4. De-activate the energy isolating device(s) so that the equipment is isolated from the energy sources(s).

ENERGY ISOLATING DEVICES

TYPE(S)	LOCATION(S)
VOLTAGE 4160	UNLATCH FUSE BANK

5. Lockout and Tagout the energy isolating devices(s) with assigned individual locks and approved tags.

6. Stored or residual energy (such as that in capacitors, springs, hydraulic systems, and air, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

ENERGY

Type(s)	Method(s) of Control
NO ENERGY SOURCES on load side VOLTAGE 4160	Volt meter to verify open condition

7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the normal operating control(s) or by testing to make certain the equipment will not operate. **CAUTION:** Return controls to "OFF" after verification.

METHODS OF VERIFICATION

OPEN lower panel on switch gear by AUTHORIZED PERSONAL that ARE
WEARING A 40CAL hot suit with approved gloves, check condition is open
with digital voltmeter and close door AFTER testing.

8. The equipment is now locked/tagged out.

RESTORING EQUIPMENT TO SERVICE

When the maintenance is completed and the equipment is ready to return to normal operating condition, the following steps will be taken: *STAND ON THE CORRECT SIDE OF SWITCH AND CLOSE CIRCUIT.*

1. Check the equipment and the immediate area around the equipment to ensure that non-essential items have been removed and the equipment components are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in neutral.
4. Remove the Lockout and Tagout device(s) and re-energize the equipment.

NOTE: The removal of some forms of blocking may require re-energization of the equipment for safe removal.

5. Notify the affected employees that the maintenance is completed and the equipment is ready for use.

ADDITIONAL COMMENTS

JOB SAFETY ANALYSIS - CHECKLIST

Job/Operation Title:

Taking A 4160 volt Blower out of service

JSA No.:

Date:

10-26-20

Department/Division/Section:

Analysis Developed By:

MAINTENANCE

Location(s):

Analysis Reviewed By:

Blower building

Person(s) Performing This Job:

Supervisor:

Job Start Date:

Duration:

Other Information:

Task/Step	Potential Hazards	Recommended Safe Job Procedures
Advise All personnel Put on 40 cal suit Open 4160 Circuit Test voltage with Digital meter Close 4160 circuit	NONE NONE - Arc flash, burns " ARC flash	proper P.P.E., BARRIERS " proper P.P.E.

Radiological Consequences

- | | | |
|--|---|---|
| <input type="checkbox"/> Acute Radiation Syndrome (ARS)
<input type="checkbox"/> Biological effects
<input type="checkbox"/> Effects on the Eyes - Blindness | <input type="checkbox"/> Effects on the Eyes - Cataracts
<input type="checkbox"/> Effects on the Skin - Burns
<input type="checkbox"/> Eye Damage | <input type="checkbox"/> Eye Strain - Minor Loss of Sight
<input checked="" type="checkbox"/> NONE |
|--|---|---|

Administrative Controls:

- | | | |
|---|--|--|
| <input type="checkbox"/> 3 man job
<input type="checkbox"/> 3 man job throughout one day
<input type="checkbox"/> 3 or 4 man task
<input type="checkbox"/> Air meter monitoring
<input type="checkbox"/> Audits (site or job)
<input checked="" type="checkbox"/> Buddy system
<input checked="" type="checkbox"/> Certified operators
<input type="checkbox"/> Chemical Hygiene Plan
<input type="checkbox"/> Clean lime off of gloves before leaving chemical feed room.
<input type="checkbox"/> Combination Lock
<input type="checkbox"/> Communication with co-workers
<input checked="" type="checkbox"/> Competent Person
<input checked="" type="checkbox"/> Competent person
<input type="checkbox"/> Confined space (no permit required) procedure
<input type="checkbox"/> Confined space procedure
<input checked="" type="checkbox"/> Contact with designated work area Supervisor
<input type="checkbox"/> Current Drivers License
<input type="checkbox"/> DO NOT ACTIVATE SWITCHGEAR UNLESS NSTAR PRESENT
<input type="checkbox"/> Daily Inspection Checklist
<input type="checkbox"/> Drug and alcohol policy
<input type="checkbox"/> Dust control program
<input type="checkbox"/> Emergency procedures
<input type="checkbox"/> Equipment maintenance and servicing manual
<input type="checkbox"/> Ergonomic procedure
<input type="checkbox"/> Federal, state, and local regulations
<input type="checkbox"/> Fire protection program
<input type="checkbox"/> Fire watch
<input type="checkbox"/> Hand Held Gas Detector
<input type="checkbox"/> Hazardous Waste Label
<input checked="" type="checkbox"/> High Heat Suit required
<input type="checkbox"/> Hot work procedure
<input type="checkbox"/> Housekeeping practices
<input type="checkbox"/> Inclement Weather Condition Restrictions
<input type="checkbox"/> Insect repellant | <input type="checkbox"/> Inspections (ongoing) work areas, equipment, tools, etc.
<input type="checkbox"/> Inspections (pre-job) - work areas, equipment, tools, etc.
<input checked="" type="checkbox"/> JSA
<input type="checkbox"/> Job rotation
<input type="checkbox"/> Key to Gate Padlock Added to Truck Key Ring
<input type="checkbox"/> LOTO to stop water flow to pit
<input type="checkbox"/> LPSA
<input type="checkbox"/> Level Indicator Trip Switch
<input type="checkbox"/> Licensed operators
<input type="checkbox"/> Lifting techniques (safe lifting)
<input type="checkbox"/> Locked Access
<input checked="" type="checkbox"/> Lockout/tagout
<input checked="" type="checkbox"/> MSA
<input type="checkbox"/> Management of change
<input type="checkbox"/> Material handling procedures
<input type="checkbox"/> Mental Safety Assessment (MSA)
<input type="checkbox"/> Monitoring (biohazards)
<input type="checkbox"/> Monitoring (hazardous atmospheres)
<input type="checkbox"/> Monitoring (radiological hazards)
<input type="checkbox"/> None (for Step)
<input type="checkbox"/> Notification and communication procedures
<input type="checkbox"/> O&M manual for the equipment
<input type="checkbox"/> Obey all traffic signs (speed, pedestrian, railroad and heavy equipment crossing etc.)
<input type="checkbox"/> Off loading authorization Form
<input type="checkbox"/> Operating instructions (equipment)
<input type="checkbox"/> Operating procedures (process)
<input type="checkbox"/> Policy or policies
<input checked="" type="checkbox"/> Precautionary tape or barriers
<input type="checkbox"/> Procedures and/or guidelines (general)
<input type="checkbox"/> Procedures and/or guidelines (job or activity)
<input type="checkbox"/> Radiological safety program
<input type="checkbox"/> Re assigned confined space
<input type="checkbox"/> Rescue Team Onsite
<input type="checkbox"/> Respirator protection program | <input type="checkbox"/> Rest breaks
<input type="checkbox"/> SSAB SOPs
<input type="checkbox"/> Safety Data Sheet (SDS)
<input type="checkbox"/> Safety Data Sheets (SDS)
<input type="checkbox"/> Safety and health plan (site specific)
<input type="checkbox"/> Safety and health program
<input type="checkbox"/> Safety and occupational health manual
<input type="checkbox"/> Safety checklists (use to document inspections)
<input checked="" type="checkbox"/> Safety meeting (pre-job)
<input type="checkbox"/> Safety meetings - on-going (e.g., daily or weekly tailgate safety)
<input type="checkbox"/> See Work Order
<input type="checkbox"/> Shoring Equipment
<input checked="" type="checkbox"/> Signage
<input type="checkbox"/> Spare Key to Building in Truck
<input checked="" type="checkbox"/> Standard Operating Procedures (SOPs)
<input type="checkbox"/> Stop Watch
<input type="checkbox"/> Supervising contract drivers
<input type="checkbox"/> Supplemental Equipment (Fan, Heater)
<input type="checkbox"/> Tailgate/Toolbox Safety Meeting
<input type="checkbox"/> Traffic Control
<input type="checkbox"/> Trained personnel
<input type="checkbox"/> Trench Boxes
<input checked="" type="checkbox"/> Two Person Team at all times.
<input type="checkbox"/> Two man task
<input type="checkbox"/> Underground utilities (e.g., use Dig Alert, Dig-Safe)
<input type="checkbox"/> VVNA SOPs
<input type="checkbox"/> Weapons policy
<input type="checkbox"/> Weather forecast (pre-job)
<input type="checkbox"/> Work practices
<input type="checkbox"/> Work schedules (adjust time)
<input type="checkbox"/> Work schedules (rotate)
<input type="checkbox"/> never have radio on person, direct communication only |
|---|--|--|

Required PPE:

- | | | |
|--|--|--|
| <input type="checkbox"/> 1/2 face respirator | <input type="checkbox"/> First Aid Kit | <input type="checkbox"/> Prescription Safety Glasses (If Needed) |
| <input checked="" type="checkbox"/> ARC Rated Protective Equipment | <input type="checkbox"/> Flashlight | <input type="checkbox"/> Proper Welding, Cutting, Brazing PPE |
| <input type="checkbox"/> Air-purifying respirator - see step-by-step instructions for cartridge type | <input type="checkbox"/> Gloves - Cut Resistant | <input type="checkbox"/> Rain Gear |
| <input checked="" type="checkbox"/> Arc Flash Suit for energizing breaker | <input type="checkbox"/> Gloves - Electrical Resistant | <input type="checkbox"/> Rain Suit |
| <input type="checkbox"/> Boots - steel toe and shank, appropriate soles | <input type="checkbox"/> Gloves - Task Specific | <input type="checkbox"/> Reflective Clothing |
| <input type="checkbox"/> CHEMICAL APRON | <input type="checkbox"/> Gloves - work gloves | <input type="checkbox"/> Respirator |
| <input type="checkbox"/> Cam Arm Straps | <input type="checkbox"/> Gloves inner - chemical-resistant | <input type="checkbox"/> Respirator w/OV Cartridges |
| <input type="checkbox"/> Chain | <input type="checkbox"/> Gloves outer - chemical-resistant | <input type="checkbox"/> Respirator w/OV Cartridges, if required. |
| <input type="checkbox"/> Chemical Resistant Boots | <input checked="" type="checkbox"/> Gloves- Leather Work Gloves | <input type="checkbox"/> Rubber apron |
| <input type="checkbox"/> Chemical Resistant Gloves | <input type="checkbox"/> Goggles | <input type="checkbox"/> Safety Glasses |
| <input type="checkbox"/> Chemical Resistant, Over boots | <input type="checkbox"/> HARD HAT WITH FACE SHEILD | <input type="checkbox"/> Safety Glasses with Side Shields |
| <input type="checkbox"/> Chemical Splash Goggles | <input type="checkbox"/> Hard Hat w/Goggles | <input type="checkbox"/> Safety Glasses, Uniform, Safety Toes Boots |
| <input type="checkbox"/> Chemical apron | <input checked="" type="checkbox"/> Hard hat | <input type="checkbox"/> Safety Pylons |
| <input type="checkbox"/> Chest Waders with Safety Toe in Boots | <input type="checkbox"/> Hard hat with Safety Glasses | <input type="checkbox"/> Safety Vest |
| <input type="checkbox"/> Class 3 reflective gear for night time ops | <input type="checkbox"/> Harness | <input type="checkbox"/> Safety glasses |
| <input type="checkbox"/> Clothing - Uniform | <input type="checkbox"/> Harness | <input type="checkbox"/> Seatbelt |
| <input type="checkbox"/> Clothing - Uniform - UniFirst | <input checked="" type="checkbox"/> Hearing protection | <input type="checkbox"/> Self contained breathing apparatus |
| <input type="checkbox"/> Clothing - chemical resistant | <input type="checkbox"/> Hearing protection (if required) | <input type="checkbox"/> Self retracting lifeline and davit arm |
| <input checked="" type="checkbox"/> Clothing - fire resistant | <input type="checkbox"/> Heat Resistant Incinerator Gloves | <input type="checkbox"/> Self retracting lifeline and davit arm (for Entrant only) |
| <input type="checkbox"/> Clothing - fully covering skin | <input checked="" type="checkbox"/> High Heat Protective Suit | <input type="checkbox"/> Side shield |
| <input checked="" type="checkbox"/> Clothing - long pants | <input checked="" type="checkbox"/> High Heat Protective Suit for Competent Employee | <input checked="" type="checkbox"/> Steel Toed Boots |
| <input checked="" type="checkbox"/> Clothing - long sleeve shirt | <input type="checkbox"/> Hip Waders | <input type="checkbox"/> Steel Toed Leather Boots |
| <input type="checkbox"/> Clothing - totally-encapsulating vapor tight chemical protective suit | <input type="checkbox"/> Hoist | <input type="checkbox"/> Steel toe and shank boots |
| <input checked="" type="checkbox"/> Clothing- Cintas Uniform | <input type="checkbox"/> Kevlar (Hot) Coat | <input checked="" type="checkbox"/> Steel toe boots |
| <input type="checkbox"/> Disposable Gloves | <input type="checkbox"/> Kevlar Cut Resistant Gloves | <input type="checkbox"/> Steel-Toe Rubber Boots |
| <input type="checkbox"/> Disposable Tyvek Suit | <input type="checkbox"/> Kevlar Sleeves | <input type="checkbox"/> Supplied air respirator |
| <input type="checkbox"/> Dust / vapor mask | <input type="checkbox"/> Knee Pads | <input type="checkbox"/> TRENCHBOXES |
| <input checked="" type="checkbox"/> Electrical rated uniform | <input type="checkbox"/> Lab coat | <input type="checkbox"/> Tape Gloves to Long Sleeves |
| <input checked="" type="checkbox"/> Electrical rated uniform | <input type="checkbox"/> Latex Gloves | <input type="checkbox"/> Two multi-gas meters |
| <input type="checkbox"/> FRC's | <input type="checkbox"/> Life Jacket or Life Vest | <input type="checkbox"/> UV face shield |
| <input type="checkbox"/> Face Shield | <input checked="" type="checkbox"/> Lock and Tag | <input type="checkbox"/> UV protective goggles and faceshield |
| <input type="checkbox"/> Face Shield with Safety Glasses Equipped with Side Shield in lieu of Goggles | <input type="checkbox"/> Long sleeve gloves | <input type="checkbox"/> We will tie the pipe in while removing bolts then ease it down safely |
| <input type="checkbox"/> Face protection | <input type="checkbox"/> Medical approval for respirator use. | <input type="checkbox"/> Work gloves- Powerflex |
| <input type="checkbox"/> Face shield with safety glasses with side shields can be in place instead of goggles. | <input type="checkbox"/> Metatarsal Boots | <input type="checkbox"/> chaps |
| <input type="checkbox"/> Fall Arrest Equipment | <input type="checkbox"/> Multi-gas meter | <input type="checkbox"/> ear protection (ear plugs/muffs) |
| <input type="checkbox"/> Fall Arrest Equipment | <input type="checkbox"/> Multi-gas meter with tubing (for Attendant) | <input type="checkbox"/> insulated clothing and snow boots |
| <input type="checkbox"/> Fall protection | <input type="checkbox"/> No short sleeve shirts | <input type="checkbox"/> leather gloves |
| <input type="checkbox"/> Fall restraint self retracting lifeline (for Attendant) | <input type="checkbox"/> Nuisance dust masks | <input type="checkbox"/> safety vests |
| <input type="checkbox"/> First Aid Kit | <input checked="" type="checkbox"/> Personal protective equipment | |

Engineering Controls:

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> "K Rail" <input type="checkbox"/> 360 degree traffic light <input type="checkbox"/> Air filtration <input type="checkbox"/> Air pressurization <input type="checkbox"/> Barriers or fencing <input type="checkbox"/> Capped Lines <input checked="" type="checkbox"/> Caution Tape in Place - DONOT Cross Caution Tape. <input type="checkbox"/> Caution/Warning Tape with Tags <input type="checkbox"/> Centrifuge Containment <input type="checkbox"/> Chain Fall & A-Frame <input type="checkbox"/> Chains across Entry ways to grit chamber both sides. (DONOT Cross chains when chamber is open) <input type="checkbox"/> Chalk blocks <input type="checkbox"/> Check alarm in Drywell Building before entry to Barscreen Building. Open doors to Barscreen Building to air out. <input type="checkbox"/> Chemical elimination <input type="checkbox"/> Chemical reduction <input type="checkbox"/> Chemical substitution <input type="checkbox"/> Clarifier Box <input type="checkbox"/> Close isolation valves <input type="checkbox"/> Contained Pad <input type="checkbox"/> Davit Arm For Rescue <input type="checkbox"/> Do not overfill truck, if so clean area after truck is gone. <input type="checkbox"/> Drain Line <input type="checkbox"/> Drum / Barrel Clamp <input type="checkbox"/> Enclosures <input checked="" type="checkbox"/> Energy isolation device <input type="checkbox"/> Equipment Movement Restraint <input type="checkbox"/> Ergonomic design (equipment or furniture) <input type="checkbox"/> Exhaust Fan <input type="checkbox"/> Explosion Proof Enclosures <input type="checkbox"/> Eyewash Stations <input type="checkbox"/> Fall protection structures or devices <input type="checkbox"/> Falling objects protective structures or devices <input type="checkbox"/> Flashlight <input type="checkbox"/> Gantry for Chain falls | <ul style="list-style-type: none"> <input type="checkbox"/> Gate Valve <input type="checkbox"/> Gates <input type="checkbox"/> Gates installed <input type="checkbox"/> Grated Surfaces <input type="checkbox"/> Handrails <input type="checkbox"/> Hazard light on truck <input type="checkbox"/> Inclement Weather Condition Restrictions <input type="checkbox"/> Insulated Lines <input type="checkbox"/> Isolation valves <input type="checkbox"/> Large fan to circulate air in work area / space. <input type="checkbox"/> Life Jackets/Floatation Devices <input type="checkbox"/> Lighting improvement <input type="checkbox"/> Local Level Indicators <input type="checkbox"/> Local Pressure Indicators <input type="checkbox"/> Long Handle Square Point Shovel <input type="checkbox"/> Machinery guarding <input type="checkbox"/> No Cellular Phones or Other Electrical Devices <input type="checkbox"/> Noise barriers <input type="checkbox"/> Non-Sparking Tools <input type="checkbox"/> Perform Task in Cooler Weather (early Spring, late Fall) if possible <input type="checkbox"/> Perform p.m. in nice weather conditions, no rain snow or ice accumulations also no high winds. <input type="checkbox"/> Pins & Straps on Cam-lock Ears <input type="checkbox"/> Pool Hook <input type="checkbox"/> Portable Gantry & Hoist <input type="checkbox"/> Pressure Relief Valves <input type="checkbox"/> Pumping Equipment to Keep liquid removed <input type="checkbox"/> Purge Panels <input type="checkbox"/> Ratchet Tie-Down Straps <input checked="" type="checkbox"/> Required PPE <input type="checkbox"/> Restraint system <input type="checkbox"/> Roll-over protection <input checked="" type="checkbox"/> Safety Cones <input type="checkbox"/> Safety curtain installed <input type="checkbox"/> Scaffolding | <ul style="list-style-type: none"> <input type="checkbox"/> Select proper safe area to stage truck to be loaded. <input type="checkbox"/> Shoring <input type="checkbox"/> Shoring Equipment <input type="checkbox"/> Shower <input type="checkbox"/> Signage <input type="checkbox"/> Spill Containment Kit <input type="checkbox"/> Spill Containment Unit <input type="checkbox"/> Spill Containment Unit <input type="checkbox"/> Standard Railing <input type="checkbox"/> Strapping material <input type="checkbox"/> Take Additional breaks <input type="checkbox"/> Take additional breaks, half-full buckets to prevent injury. <input type="checkbox"/> Tank handle and pipe extension <input type="checkbox"/> Towing strap <input type="checkbox"/> Trench Box <input type="checkbox"/> Two way radios <input type="checkbox"/> Use proper tools <input type="checkbox"/> Vapor Recovery System <input type="checkbox"/> Vehicle Emergency Flashers <input type="checkbox"/> Ventilation <input type="checkbox"/> Ventilation <input type="checkbox"/> Ventilation and exhausting <input type="checkbox"/> Verify Tank is less than 100 degrees. <input type="checkbox"/> Verify level in tank is less than half full. <input type="checkbox"/> Walk-Overes <input type="checkbox"/> Work process change (e.g., use different methods to perform work) <input type="checkbox"/> Work surfaces improvement <input type="checkbox"/> Work tools or equipment replacement (use less hazardous tools or work equipment) <input checked="" type="checkbox"/> make sure employees know equipment is locked out <input type="checkbox"/> safety cab jackstands <input type="checkbox"/> weather restrictions - no rain, snow, ice or high winds <input type="checkbox"/> wheel chocks |
|--|---|--|

Notes

Purpose - To verify operation of 4160 gear from generator to ATS.

Scope. proper operation of ATS, verify for Arc-finish

General Description. Power up generator for transfer operation

Responsibilities - verify switch operators

Safety - Hot suit, hi voltage wand,

Check the ATS on floor ^{sub} level #3 that ATS on ^{sub} level #3 emerg.
(open door at 4160 switch at generator)

power is not closed. Suit up and use hi voltage in switch box is

open on EMERG side mounted on North Wall of ^{existing} generator #1

Start generator verify the voltage at switch gear of the

generator mounted on N. wall of generator verify 4160 voltage

Close battery switches mounted on generator, verify fuel level

Follow directions in control room* / in control room push button. Breaker Control
start generator, close main breaker ¹ generator located on generator

~~close shore power~~

* Allow idle to change before closing breaker, close breaker, check voltage on meters -

Notes

After closing breaker go to sub level #3 verify the normal breaker on normal side is open and close breaker on emerg side.

Notes

Taking Blower out of service

Purpose - To take blower out of service

Scope Provide any person the written ability to take blower off line

General Description: Take amp load on blower to a safe condition so blower can be taken out of service

Responsibilities - Safety of those taking blower out of service

Safety Requirements - Hard hat, safety glasses

Ref. Documents

Record keeping

Procedures: 1. Adjust ^{all} ~~the~~ blowers to amp draw load to 80 amps per motor by the ^{guide} VANE adjustment

After that is achieved turn blower down ¹ of blowers you want to take off line. After ~~the~~ all are turned down then the stop button can be turned off

The blowers still on line can be readjusted to desired amp draw.

Work Order Worksheet

Work Order Number	360955	PM Number	2067
Work Order Status	Assigned	Priority	3
Work Order Type	Inspection	Estimate(Hours)	1
Created By	System Administrator	Load Date	05/30/2021
RequestedBy		Due Date	06/28/2021
Assigned To	Julius Tindol	Start Date	05/30/2021
Craft	Plant Maintenance	Completed Date	

Work Description
Emergency Lights

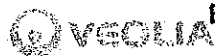
Assets (2)

Division	Plants		
Asset ID	Asset Description	SupervisorName	Location
EMERGENCY-LIGHTING-T	ALL BUILDINGS		TRAHON VARIOUS
Old Asset #	T-EMERGENCY LIGHTING		
Site	Trahon		
EMERGENCY-LIGHTING-SS	LIGHTING		SAVANNA ST. VARIOUS
Old Asset #	SS-EMERGENCY LIGHTIN		
Site	Savanna St.		

Procedures (1)

3067	2 Assets	Emergency Lights
EMERGENCY-LIGHTING-T		ALL BUILDINGS
EMERGENCY-LIGHTING-SS		LIGHTING
Refer to chart attached		

Completed By _____ **Completed Date** _____



Emergency and Powered Exit Lights Monthly Inspection Checklist

Date:

eRPortal Work Order No:

Monthly inspection shall include a check of at least the following:

Note: When an inspection of a emergency light (flood or exit type) reveals a deficiency in any of the conditions listed above, immediate corrective action should be taken.

Monthly and Annual Record - Checklist

Emerg Light INV #	Loc Code (S-T-PH)	Location	Wall Direction (N-S-E- W)	30 seconds Illuminatio n	Fixture OK	Breaker Location (Specify)	Activated for 1.5 hours	Comment: # Below
				Yes/No	Yes/No		Yes/No	
101		Admin. Building 1st floor hall	E					
102		Admin Building stairway	N					
103		Admin Building 2nd floor	E					
104		Raw 1st floor	N					
105		Raw 1st floor, above stairs	N					
106		Raw 2nd floor, above stairs	S					
107		Raw 2nd floor, above gen.	N					
108		New RAS stairway	N					
109		New RAS 1st floor exit	S					
110		New RAS 2nd floor exit	S					
111		Chlorination	N					
112		Old RAS	E					
113		Effluent 1st stairs	N					
114		Effluent 1st East exit	E					
115		Effluent 2nd floor stairs	N					
116		Effluent 2nd floor East exit	E					
117		Effluent 2nd floor West exit	W					
118		Effluent 3rd floor East exit	S					
119		Effluent 3rd floor West exit	S					
120		Pipe Gallery South	E					
121		Pipe Gallery South exit	S					
122		Pipe Gallery 9E	E					
123		Pipe Gallery 7E	E					

124	Pipe Gallery 6E Control Cabinet	E					
125	Pipe Gallery 5E	E					
126	Pipe Gallery 5E	E					
127	Pipe Gallery 2E Control Cabinet	E					
128	Pipe Gallery N exit	N					
129	Pipe Gallery N stairwell	W					
130	Blower Room Exit	E					
131	Blower Room SE Corner	E					
132	Old Maintenance hall	W					
133	Old Maintenance	E					
134	Old Maintenance between Blower Room	N					
135	New Maintenance	E					
136							
137							
138							
139							
140							
141							
142							
143							
144							
145							

Comments-Corrective Action Needs:

Inspected By: _____

Approved By: _____

Work Order Worksheet

Work Order Number	360935	PM Number	2027
Work Order Status	Assigned	Priority	3
Work Order Type	Inspection	Estimate(Hours)	1
Created By	System Administrator	Load Date	05/28/2021
RequestedBy		Due Date	06/01/2021
Assigned To	Julius Tindol	Start Date	05/28/2021
Craft	Plant Maintenance	Completed Date	

Work Description

Crane Inspection - Monthly

Assets (10)

Division	Plants		
Asset ID	Asset Description	SupervisorName	Location
HOIST-CHLORINE	CL2 BUILDING CRANE VEO008		SAVANNA ST. CL2 BUILDING
Old Asset #	SS-HOIST- CHLORINE		
Site	Savanna St.		
HOIST-MAINT.	MAINT. SHOP CRANE VEO011		SAVANNA ST. MAINTENANCE SHOP
Old Asset #	SS-HOIST- MAINT.		
Site	Savanna St.		
HOIST-RAS	NEW RAS CRANE VEO009		SAVANNA ST. RETURN BUILDING
Old Asset #	SS-HOIST- RAS		
Site	Savanna St.		
HOIST-RSPS	RSPS CRANE VEO005		SAVANNA ST. INFLUENT
Old Asset #	SS-HOIST- RSPS		
Site	Savanna St.		
HOIST-SO2	SO2 BUILDING CRANE VEO006		SAVANNA ST. SO2 BUILDING
Old Asset #	SS-HOIST- SO2		
Site	Savanna St.		
HOIST-1	MAINTENANCE SHOP HOIST VEO015		TRAHON ADMIN BUILDING
Old Asset #	T-HOIST 1		
Site	Trahon		
HOIST-2	RAS/WAS PUMP HOIST VEO014		TRAHON
Old Asset #	T-HOIST 2		
Site	Trahon		

HOIST-3	CL2/SO2 HOIST VEO013	TRAHON
Old Asset #	T-HOIST 3	
Site	Trahon	
HOIST-BLOWER	BLOWER BUILDING CRANE VEO010	SAVANNA ST. BLOWER BUILDING
Old Asset #	SS-HOIST- BLOWER	
Site	Savanna St.	
HOIST-NE	NEW EFFLUENT CRANE VEO012	SAVANNA ST. NEW EFFLUENT
Site	Savanna St.	

Procedures (1)

3027	10 Assets	Crane Inspection - Monthly
HOIST-CHLORINE		CL2 BUILDING CRANE VEO008
HOIST-MAINT.		MAINT. SHOP CRANE VEO011
HOIST-RAS		NEW RAS CRANE VEO009
HOIST-RSPS		RSPS CRANE VEO005
HOIST-SO2		SO2 BUILDING CRANE VEO006
HOIST-1		MAINTENANCE SHOP HOIST VEO015
HOIST-2		RAS/WAS PUMP HOIST VEO014
HOIST-3		CL2/SO2 HOIST VEO013
HOIST-BLOWER		BLOWER BUILDING CRANE VEO010
HOIST-NE		NEW EFFLUENT CRANE VEO012
1. Hooks, Chains and Wire Ropes	7. Pins	
4. Structural members	8. Shafts	
5. Bolts	9. Sheaves	
6. Fittings	10. Drums	
11. Excessive wear on brakes and sprockets		

Use the attached form.

Must be submitted with the completed work order.

Completed By _____

Completed Date _____