MONTHLY PROGRESS REPORT NOVEMBER 2020

EMERGENCY WWTP REPAIR PROJECT GREENVILLE, MS

Submitted To:

U.S. Environmental Protection Agency, Region 4
Clean Water Enforcement Branch
61 Forsythe Street, S.W.
Atlanta, GA 30303-8960

and

Mississippi Department of Environmental Quality P.O. Box 2261 Jackson, MS 39225



Prepared For:

City Hall 340 Main Street Greenville, MS 38701

December 10, 2020



CERTIFICATION

Monthly Progress Report
November 2020
Administrative Order No. CWA-04-2020-0303
City of Greenville, MS

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

Errick D. Simmons, Mayor

December 10, 2020

Date

File Name: Monthly Progress Report (November 2020)

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SECTION I

PERMIT EFFLUENT EXCEEDANCES

A tabulation of the permit effluent limit exceedances for the month of November 2020 is referenced in Table 1 below. The raw data are referenced in Appendix A.

TABLE 1 - EFFLUENT PERMIT EXCEEDANCES

					TOTAL
D 4 777	FLOW	BOD5	TSS	pН	FECAL
DATE	(MGD)	(mg/l)	(mg/l)	(SU)	COLIFORM
	,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	, ,	(MPN/100ml)
					,
11-01-2020		156	168		48,333
11-02-2020		78	112		45,000
11-03-2020		114	138		108,333
11-04-2020		149	130		56,667
11-05-2020		163			28,333
11-06-2020		253	90		63,333
11-07-2020		186	100		73,333
11-08-2020		205	160		36,667
11-09-2020		178	54		118,333
11-10-2020		130	116		100,000
11-11-2020		158	180		116,667
11-12-2020		165	194		95,000
11-13-2020		188	170		33,333
11-14-2020		178	94		58,333
11-15-2020		132	54		60,000
11-16-2020		152	352		66,666
11-17-2020		168	186		108,333
11-18-2020		170	150		111,333
11-19-2020		182	64		95,000
11-20-2020		167	128		101,666
11-21-2020		168	48		121,666
11-22-2020		105	54		101,666
11-23-2020		162	86		121,666
11-24-2020		217	210		50,000
11-25-2020		137	54		45,000
11-26-2020		118	150		26,666
11-27-2020		250	182		83,333
11-28-2020		108	121		90,000
11-29-2020		100	90		90,000
11-30-2020		136	402		88,333

⁻ End of Section -



SECTION II

SUMMARY OF ICAP ACTIVITIES

The following ICAP activities were performed prior to and during the month of November 2020:

1. Clarifier Cleanings – Hemphill Construction Company (HEMPHILL) of Florence, MS, rescheduled the cleaning of Clarifier Nos. 1, 3, & 4 to begin July 15, 2020, and end December 4, 2020. The construction schedule (Appendix C) has been amended to recognize HEMPHILL's revised schedule. HEMPHILL began cleaning Clarifier No. 1 in September and completed the work in October. Manchac Management Services LLC (MANCHAC) of Baton Rouge, LA, the WWTP operator, began removing the duckweed from Clarifier No. 2 in September 2020 and completed the work in October. Towards the end of October, HEMPHILL focused their cleanup efforts on Clarifier No. 4 and continued these efforts through the end of this reporting period.

Also, during September 2020, Chicot Irrigation (CHICOT) of Lake Village, AR, installed a groundwater pump in the clarifier piezometer. This gives the City of Greenville, MS, (CITY) the option, during high groundwater events, to dewater the groundwater in the vicinity of the clarifiers to manageable levels.

- 2. Clarifier Repairs W. L. Burle Engineers, P.A. (BURLE) worked with Industrial Services, Inc. (IS) of Greenville, MS, to reschedule the clarifier repair work to sync with HEMPHILL's cleaning schedule. The construction schedule (Appendix C) has also been amended to recognize IS's revised schedule. IS began repairing Clarifiers Nos. 1 and 2 in September 2020 and completed Clarifier No. 2 in October and Clarifier No. 1 in November. Both are now operational. IS will focus on Clarifier No. 4 as soon as HEMPHILL finishes the cleaning.
- 3. Aeration Basins 1-7 Cleanings On January 20, 2020, HEMPHILL began cleaning Basin No. 7 and completed the work March 18, 2020. Basin No. 2 was cleaned in April, Basin No. 1 was cleaned in May and Basin No. 3 was cleaned in July 2020. The cleaning of Basin Nos. 4 and 6 began in July 2020. In September, HEMPHILL stopped cleaning Basin Nos. 4 and 6 and moved their crew to the clarifier cleaning project for Clarifier No. 1. In October, HEMPHILL completed the cleaning of Clarifier No. 1 and moved their crew back to Basin Nos. 4 and 6. They completed the cleaning of Basin No. 6 in October. The work continued on Basin Nos. 4 and 5 through the end of November.



- 4. By-Pass Channel Cleaning HEMPHILL started and completed the cleaning of the by-pass channel in March 2020.
- 5. UV Disinfection Chamber Cleaning HEMPHILL has rescheduled this work for December 2020.
- 6. Interim Disinfection Systems Upon receipt of the administrative order in December 2019, the CITY began disinfecting the WWTP's effluent using chlorine tablets and chlorine gas and continued using chlorine until the CITY's interim NaClO disinfection system was installed and operational.

Also in December 2019, the CITY retained BURLE to prepare the construction plans and specifications for the project. BURLE immediately specified the NaClO disinfection equipment and recommended to the CITY that they directly purchase the equipment. The CITY voted to purchase the equipment during the December 3, 2019, council meeting; delivery was expected in 10 to 12 weeks.

In order to expedite construction, BURLE broke the project into two (2) phases: Phase I – Foundation and Phase II – Equipment Installation. The phases are discussed below:

- Phase I was bid on January 3, 2020. Avis Construction Company (AVIS) of Avon, MS, was the low bidder (\$37,000) and was awarded the project. AVIS finished the project January 21, 2020.
- Phase II was bid January 30, 2020. AVIS was again the low bidder (\$24,800), and was awarded the project. The 10,000-gallon aboveground storage tank arrived on February 28, 2020, and was installed by AVIS that day. The balance of equipment (pumps, controls, housing, etc.) was delivered in March 2020, with the exception of an eyewash station which was received in April 2020. The installation of the remaining equipment followed.

Start-up was delayed due to Pandemic-related supply disruptions/travel restrictions. On April 21, 2020, the equipment representative for the disinfection equipment company conducted a training session for the WWTP staff. Sodium hypochlorite was then ordered and delivered the following week. Startup occurred April 29, 2020, and the system has remained operational since.

7. Sludge Lagoon No. 2 Project – BURLE completed the construction plans and specifications, and submitted same to the MDEQ SRF Division for review on January 31, 2020. MDEQ reviewed and approved the documents in March. The project was bid May 27, 2020. Two



(2) bids were received; both were over budget. The bids were rejected during the June 2nd council meeting.

BURLE redesigned the project to emphasize landfill disposal instead of land application and also extended the construction period by 110 days, bringing the total construction period to 475 days. MDEQ reviewed/approved the amended plans and specifications. The CITY bid the project August 26, 2020. The low bidder was Mitchell Contracting of Madisonville, LA; however, their bid was unbalanced and the CITY rejected the bids during the September 1st council meeting.

BURLE redesigned the project's bid proposal and submitted it again to MDEQ for review/approval. After receiving MDEQ's approval, BURLE obtained the CITY's approval to advertise and performed the bid opening on November 5, 2020. Synagro was the low bidder (\$2,259,003). The City Council awarded the project to them during the November 17, 2020 council meeting.

8. Wasted Activated Sludge (WAS) Pumps/Piping – In December 2019, the CITY voted to purchase three (3) WAS pumps from NOV Process and Flow Technologies (NOV) of Dallas, TX, for \$46,023. The CITY issued a purchase order (No. 200995) on January 21, 2020. NOV delivered the pumps in April 2020. The WAS comminutors and control panels were delivered on May 1, 2020. The pumps, grinders and control panels are scheduled to be installed by MANCHAC after the discharge lines have been inspected and cleaned.

Also, the valving on the WAS suction lines from Aeration Basin Nos. 1 through 8 will be replaced under Contract No. 6 - WWTP Effluent Pump Station Improvement Project. Construction documents were prepared/delivered to MDEQ for review in June 2020. MDEQ approved the construction documents in July. The bid opening was September 2, 2020. HEMPHILL was the low bidder (\$928,000). The CITY awarded the project to HEMPHILL during the September 15th council meeting. The CITY executed the agreement with HEMPHILL on September 21st. The project is now underway.

9. Additional WWTP Improvements – During the February 4, 2020, CITY council meeting, the CITY approved additional WWTP improvements which were proposed by MANCHAC, the CITY's WWTP operator.

The improvements consist of:

a. Blowers – MANCHAC proposed to rebuild three (3) of the existing blowers. On February 6, 2020, MANCHAC removed Blower No. 4 from the blower building and transported it to Erichson Company, Inc. (ERICHSON) of Metairie, LA, for



rehabilitation. ERICHSON rebuilt the blower in March 2020, and returned it to the WWTP.

In April 2020, two blowers, Blower Nos. 5 and 6, were delivered to ERICHSON in hopes of rebuilding the better of the two and using the other for parts. ERICHSON rebuilt Blower No. 5 and MANCHAC transported it to the WWTP in June. The motor for Blower No. 6 was taken to Mid-South Electric (MID-SOUTH) of Greenville, MS, for repair.

In July 2020, MANCHAC installed the blowers and now have four (4) operational blowers.

- b. Aeration Basin Diffusers MANCHAC asked the CITY to purchase sufficient diffusers to replace all of the diffusers for eight (8) aeration basins. The CITY issued a purchase order for the diffusers in February 2020. As many as 14,000 diffusers will be replaced. MANCHAC is preforming the work as basins are cleaned and the diffusers are inspected. In April, MANCHAC oversaw the replacement of the diffusers in Basin Nos. 2 and 7. In July, MANCHAC started replacing the diffusers in Basin Nos. 1 and 2; the work was completed in August. In September, MANCHAC began replacing the diffusers in the remaining clean basins. As of the end of the reporting period, the diffusers in six of the eight basins have been replaced.
- c. Aeration Basin Aeration Valves By the end of November 2020, MANCHAC had replaced the aeration valves for Basin Nos. 1 through 8.
- d. Barrack Replacement BURLE is now under contract to design a new automated bar screen and conveyor/compactor for the aeration basin. The new bar screen, along with the new grit chamber bar screen, will give the WWTP gross solids removal redundancy.
- e. Aeration Basin No. 8 Cleaning In February 2020, MANCHAC began cleaning Basin No. 8, using MANCHAC's crew, and completed the work in April.
- f. Exercise/Repair Frozen Sluice Gates for Aeration Basin Nos. 1 through 8 The CITY hired IS to exercise and/or repair eleven (11) frozen sluice gates in Basin Nos. 1 through 8. The work began in June 2020. Several of the gates in Basin Nos. 1, 2, 6 and 7 are in need of concrete wall repairs. The repairs will be performed by HEMPHILL under a change order which was brought before the CITY Council for review/approval in July 2020. This work continued through the end of this reporting period.
- g. Slide Gate/Stop Gate Installations MANCHAC plans to use Basin No. 8 as an interim grit chamber until the new grit chamber is operational in April 2021. To accomplish this,



MANCHAC will reconfigure the flow through the aeration basins from parallel flow to serpentine, series flow as shown in Figure 4. This will be accomplished by installing four (4) slide gates and two (2) stop plates as shown in the drawing. The CITY has issued purchase orders for both the equipment and to IS for the installation of the equipment. The work began in July 2020 and should be completed in December 2020 when the final gate is installed while the WWTP is shut down during grit chamber construction activities.

In June 2020, BURLE prepared construction documents for the installation of the slide gate electrical services. The project was bid on July 29. 2020. McInnis Electric was the lone bidder with a bid of \$228,570. The CITY discussed the bid during the August 4th council meeting and voted to table the award. In November, MANCHAC received and the CITY approved a quote from Scott Electric Company (\$40,938.00) to perform the work.

- h. Temporary Sludge Dewatering In order to provide interim sludge dewatering services prior to the completion of the Sludge Lagoon No. 2 project, the CITY plans to rebuild the belt press sludge dewatering system and dispose of the sludge at a landfill. This will consist of:
 - Existing Belt Press Building Repairs The existing belt press building will be repaired. In July 2020, the CITY inspected the WWTP's two (2) belt presses, a 2-meter Phoenix press and a 1-meter Carter press, and scheduled an equipment representative to evaluate the condition of both presses. Phoenix Process Equipment provided a quote to rebuild the 2-meter Phoenix belt press; the 1-meter Carter belt press was not repairable. The CITY also received quotes in July to repair the belt press building and electrical system. BURLE brought these quotes before the CITY on August 18, 2020; the CITY voted to schedule the work to begin in October 2020. The work is currently being scheduled.
 - Leasing Belt Press Equipment MANCHAC plans to lease and operate a trailer-mounted, 2-meter belt press. The system will be installed adjacent to the existing, belt press building.
 - Biosolids Land Application Site The biosolids currently stored in Aeration Basin Nos. 9 through 12 and Lagoon Nos. 1 and 3 will be disposed of on a land application site. The landowner for the proposed biosolids land application site terminated the project September 2020. The CITY is currently planning to permit another site on a parcel of CITY-owned property at the Mid-Delta Regional



Airport. In November, the CITY authorized BURLE to begin the permitting process.

- 10. Grit Chamber Construction Project HEMPHILL began construction of the grit chamber in February 2020. The work has continued through the end of this reporting period. The anticipated completion date is April 23, 2021.
- 11. WWTP Biosolids Land Application Site In January 2020, MANCHAC constructed the WWTP biosolids land application site which was approved of by MDEQ and referred to in their approval letter (dated December 3, 2019) as the "Basin Material Removal Plan". MANCHAC made the site available to HEMPHILL for disposal of the aeration basin material in January.

During the January 23, 2020, public works committee meeting, a neighbor living south of the WWTP, Ms. Sarah Moorman, complained about both the odor from the land application activities and the land application site's stormwater run-off. The CITY told Ms. Moorman that they were operating the land application site within the terms of their MDEQ-approved plan. She stated she would attend the February 4, 2020, council meeting to object to the disposal practices.

On January 30, 2020, MDEQ inspected the site and subsequently instructed MANCHAC to discontinue land application work until the site was dryer and the biosolids could be properly incorporated into the surficial soils as required in MDEQ's approval plan. This action temporarily forced HEMPHILL to cease basin cleaning activities.

In February 2020, HEMPHILL installed a HDPE pipeline from the aeration basins to the sludge lagoons. This pipeline gave HEMPHILL the option of pumping the biosolids to either the sludge lagoons, as originally planned under the grit chamber project, or to the biosolids land application site. Since February, HEMPHILL has used the pipeline to convey the solids from the basins/clarifiers to the sludge lagoons.

12. WWTP Effluent Pump Station Repair – In March 2020, MANCHAC informed the CITY that the effluent pumps were in poor condition. Of the three pumps, only two were marginally operational. The situation was such that the pump station could not process the CITY's anticipated wastewater flow during a rain fall event.

The following actions were taken to address the problem:

• MANCHAC has installed two (2) by-pass pumps to assist Pump No. 3 in meeting demand. While they are in use, MANCHAC is making the following repairs:



- ➤ Pump No. 1 (East Pump) The motor was removed and taken to MID-SOUTH for repair. The motor was repaired and returned on May 20, 2020.
- ➤ Pump No. 2 The motor was removed and taken to MID-SOUTH for repair; the motor was repaired and returned on May 20, 2020. Luckett Pumps (LUCKETT) of Tutwiler, MS, was hired to inspect, repair and re-install the pump; the work continued through this reporting period.
- ➤ Pump No. 3 (West Pump) LUCKETT was also hired to inspect the pump. The pump is operational and serves as the pump station's primary pump.
- The CITY issued a purchase order to MANCHAC to purchase one (1) new effluent pump for Pump No. 1. The CITY installed the pump October 6th. It is not currently operational.
- BURLE moved the effluent pump station repair and aeration basin valve replacement project up in order of design under MDEQ SRF Loan 11 and called it "Contract No. 6 WWTP Effluent Pump Station Improvement Project". The project, as it relates to the effluent pump station, will involve the complete replacement of two pumps (Pump Nos. 2 and 3) and the valves for all three pumps.

The design of the project was expedited. Plans/specifications were delivered to MDEQ for review/approval in June 2020, instead of the original deadline of September 30, 2020. MDEQ approved the plans/specifications in July. The CITY received bids September 2, 2020. HEMPHILL was the low bidder (\$928,000.00). During the September 15th council meeting, the CITY awarded the project to HEMPHILL. The CITY has issued a Notice to Proceed to HEMPHILL for the work.

- End of Section -



SECTION III

ICAP SCHEDULE

During the July 10th conference call with EPA, DOJ and MDEQ, the CITY discussed the impact the COVID-19 pandemic, the 2020 Spring Flood Event and the complexity of the repair work have had on the CITY's Emergency WWTP Repair Project. EPA requested an amended ICAP Schedule which recognizes the impacts and delays.

The CITY sent the amended schedule to EPA/MDEQ on August 7, 2020, for review and comment (See Appendix C).

In correspondence dated October 16, 2020, EPA approved the amended ICAP Schedule.

The CITY's construction schedule, which was amended in the October 2020 Progress Report, is still current.

- End of Section -



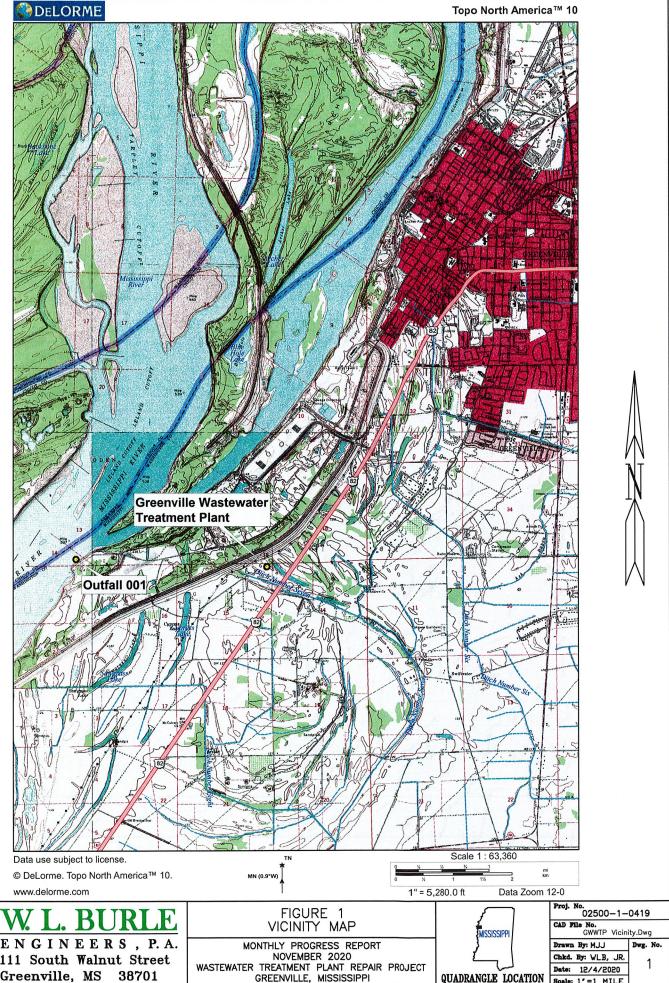
FIGURES



FIGURE 1

VICINITY MAP





ENGINEERS, P.A. 111 South Walnut Street Greenville, MS

MONTHLY PROGRESS REPORT NOVEMBER 2020 WASTEWATER TREATMENT PLANT REPAIR PROJECT GREENVILLE, MISSISSIPPI



Date: 12/4/2020 Scale: 1'=1 MILE

FIGURE 2 WWTP MAP NO. 1







MONTHLY PROGRESS REPORT NOVEMBER 2020 WASTEWATER TREATMENT PLANT REPAIR PROJECT GREENVILLE, MISSISSIPPI

FIGURE 2 WASTEWATER TREATMENT PLANT MAP

Proj.	No.
	02500-1-0419

CAD File No.

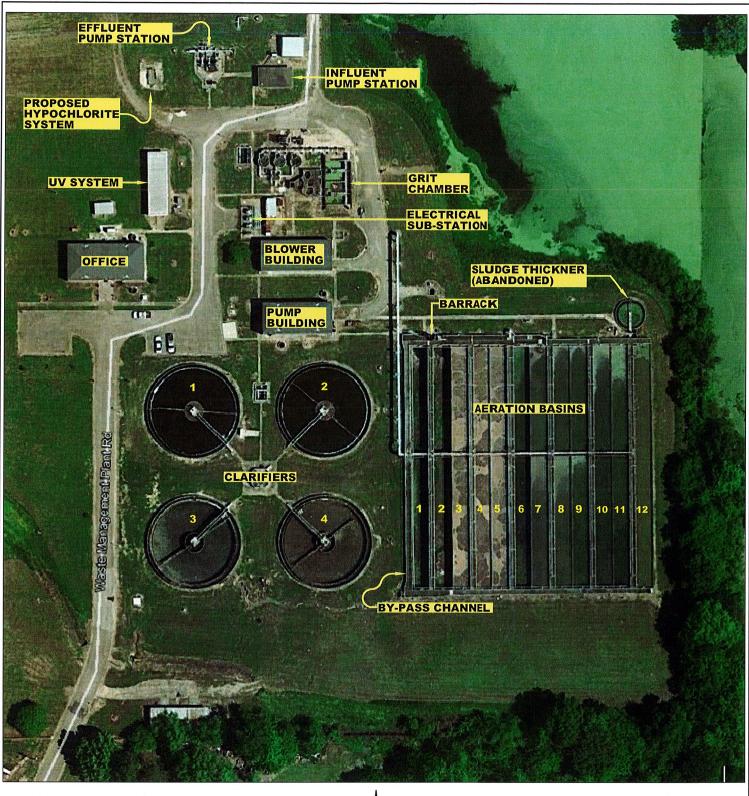
GreenvilleWWTP Layout.dwg

DIGMI	Dy.	MJJ		Dag. No.
Chkd.	By:	WLB,	Jr.	2
Date:	12	2/4/20	020	2
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FIGURE 3

WWTP MAP NO. 2









MONTHLY PROGRESS REPORT NOVEMBER 2020 WASTEWATER TREATMENT PLANT REPAIR PROJECT GREENVILLE, MISSISSIPPI

FIGURE 3 WASTEWATER TREATMENT PLANT MAP

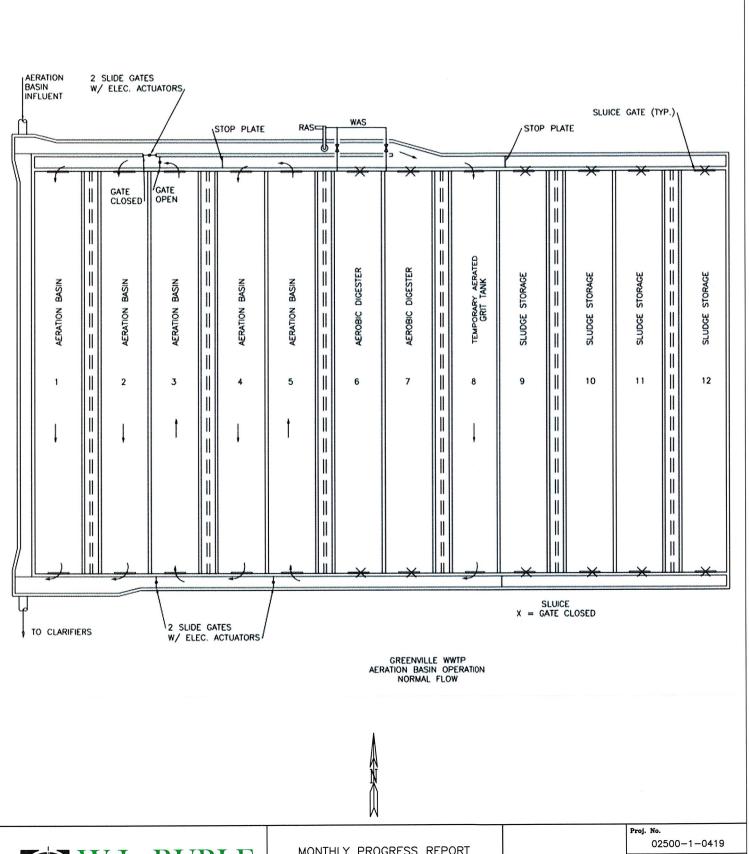
roj.	No.
	02500-1-0419

CAD File No. GreenvilleWWTP Layout.dwg

Drawn	By:	MJJ		Dwg. N
Chkd.	Ву:	WLB,	Jr.	_
Date:	12	2/4/20	020	ی ا
Scale:	N.	T.S.		

FIGURE 4 AERATION BASIN RE-CONFIGURATION PLAN





W. L. BURI ENGINEERS, P.A. 111 South Walnut Street Greenville, MS 38701

MONTHLY PROGRESS REPORT NOVEMBER 2020 WASTEWATER TREATMENT PLANT REPAIR PROJECT GREENVILLE, MISSISSIPPI

FIGURE 4 AERATION BASINS PLAN

CAD File No.

GreenvilleWWTP Layout.dwg

Dwg. No. Drawn By: MJJ Chkd. By: WLB, Jr Date: 12/4/2020 N.T.S.

APPENDICES



APPENDIX A

WWTP EFFLUENT DATA (NOVEMBER 2020)



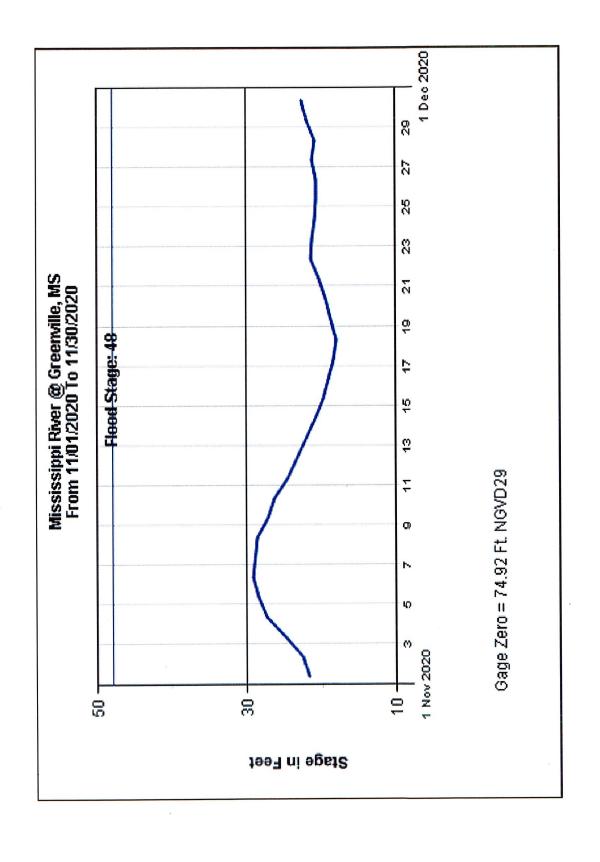
		Greenvi	Greenville Daily WWTP Report	WWTP	Report				
	MGD			Effluen	Effluent (ppm)		coloni	colonies/100mL	
								Total	
New Market	Effluent flow	Hd	BOD	TSS	Total N	Cniorine Residual		Coliform	
Sunday, November 1, 2020	4.8	6.9	156	168		0.83		48333	
Monday, November 2, 2020	5.5	7.2	78	112		2.12		45000	
Tuesday, November 3, 2020	5.4	7.2	114	138		0.03		108333	
Wednesday, November 4, 2020	6.4	7.1	149	130		0.93		29995	
Thursday, November 5, 2020	9.5	7.2	163	30		0.46		28333	
Friday, November 6, 2020	5.2	6.9	253	90		0.04		63333	
Saturday, November 7, 2020	5.1	7.0	186	100		0.18		73333	
Sunday, November 8, 2020	5.9	7.2	205	160		80.0		36667	
Monday, November 9, 2020	6.2	7.2	178	54		0.28		118333	
Tuesday, November 10, 2020	9.9	7.3	130	116		0.01		100000	
Wednesday, November 11, 2020	5.6	7.2	158	180		0.01		116667	
Thursday, November 12, 2020	6.3	7.2	165	194		0.28		95000	
Friday, November 13, 2020	5.4	7.2	188	170		0.02		33333	
Saturday, November 14, 2020	5.8	7.1	178	94		0.54		58333	
Sunday, November 15, 2020	5.1	7.3	132	54		0.31		00009	
Monday, November 16, 2020	0.9	7.3	152	352		0.10		99999	
Tuesday, November 17, 2020	5.9	7.4	168	186		0.02		108333	
Wednesday, November 18, 2020	6.3	7.1	170	150		0.02		111333	
Thursday, November 19, 2020	6.3	6.8	182	64		0.01		95000	
Friday, November 20, 2020	6.3	6.9	167	128		0.12		101666	
Saturday, November 21, 2020	6.3	7.1	168	48		0.01		121666	
Sunday, November 22, 2020	5.8	7.1	105	54		0.17		101666	
Monday, November 23, 2020	4.6	7.3	162	98		0.12		121666	
Tuesday, November 24, 2020	6.5	7.2	217	210		0.07		20000	
Wednesday, November 25, 2020	6.9	7.2	137	54		90.0		45000	
Thursday, November 26, 2020	5.5	7.3	118	150		0.18		26666	
Friday, November 27, 2020	6.2	7.3	250	182		0.86		83333	
Saturday, November 28, 2020	4.1	7.3	108	121		0.05		00006	
Sunday, November 29, 2020	8.7	7.1	100	06		0.23		00006	

					-000	00000	
Monday, November 30, 2020	6.3	7.2 136	o 402		7.70	88333	
Nov. 2020 Total	176 xxxx	XXXX	XXXX	XXXX	XXXX	XXXX	
Nov 2020 Average	9	7.2 159	9 136	#DIV/0!	0	71422	
Nov.2020 Max	6	7.4 253	3 402	0	2	121666	
Nov.2020 Min	4 6	8.8 7.8	30	0	0	26666	

APPENDIX B

MISSISSIPPI RIVER @ GREENVILLE GAGE - NOVEMBER 2020





APPENDIX C

EMERGENCY WWTP REPAIR PROJECT CONSTRUCTION SCHEDULE



