STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0093432
Owner:	City of Greenville
Address:	P.O. Box 427, Greenville, MO 63944
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Greenville Wastewater Treatment Facility
Facility Address:	0.1 miles southeast of Poplar St. and Sycamore St. intersection, Greenville, MO 63944
Legal Description:	NW ¼, SW ¼, SE ¼, Sec. 1, T28N, R5E, Wayne County
UTM Coordinates:	X=726464, Y=4111545
Receiving Stream:	Unnamed tributary to St. Francis River (U)
First Classified Stream and ID:	St. Francis River (P) (2835)
USGS Basin & Sub-watershed No.:	(08020202-0503)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 – POTW – SIC #4952
The use or operation of this facility shall be by or under the supervision of a Certified "C" Operator.
Two-cell aerated lagoon / two sand filters / chlorination / de-chlorination / sludge retained in lagoon
Design population equivalent is 1,070
Design flow is 74,000 gallons per day.
Actual flow is 78,700 gallons per day.
Design sludge production is 16.1 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

May 1, 2013
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

December 31, 2016
Expiration Date

John Madras, Director, Water Protection Program

OUTFALL #001	TABLE A-1. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 2 of 9
		PERMIT NUMBER MO-0093432

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect through **April 30, 2020**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	twice/week	24 hr. estimate
Biochemical Oxygen Demand$_5$	mg/L		65	45	once/month	grab
Total Suspended Solids	mg/L		120	80	once/month	grab
E. coli (Note 1, Page 4)	#/100 ml		630	126	once/month	grab
pH – Units	SU	**		**	once/month	grab
Ammonia as N	mg/L	*		*	once/month	grab
Total Residual Chlorine (Note 2, Page 4)	µg/L	17 (130ML)		8 (130ML)	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JUNE 28, 2013. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen	mg/L	*		*	twice/week	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JUNE 28, 2013.

EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Oil & Grease	mg/L	15		10	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2013.

Whole Effluent Toxicity (WET) test	% Survival	See Special Condition #20	once/permit cycle	24-hr Composite***

MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE JANUARY 28, 2017.

* Monitoring requirement only.
** pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.5 pH units.
*** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
**** See table below for quarterly sampling.

Minimum Sampling Requirements			
Quarter	**Months**	**Oil & Grease**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

OUTFALL #001	TABLE A-2. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 3 of 9
		PERMIT NUMBER MO-0093432

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **May 1, 2020** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	twice/week	24 hr. estimate
Biochemical Oxygen Demand$_5$	mg/L		65	45	once/month	grab
Total Suspended Solids	mg/L		120	80	once/month	grab
E. coli (Note 1, Page 4)	#/100 ml		630	126	once/month	grab
pH – Units	SU	**		**	once/month	grab
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	4.0 8.9		1.4 2.8	once/month	grab
Total Residual Chlorine (Note 2, Page 4)	µg/L	17 (130ML)		8 (130ML)	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JUNE 28, 2020. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Dissolved Oxygen	mg/L	*		*	twice/week	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE JUNE 28, 2020.

EFFLUENT PARAMETER(S)	UNITS	DAILY MINIMUM	WEEKLY AVERAGE MINIMUM	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Oil & Grease	mg/L	15		10	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2020.

Whole Effluent Toxicity (WET) test	% Survival	See Special Condition #20	once/permit cycle	24-hr Composite***

MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE JANUARY 28, 2017.

* Monitoring requirement only.
** pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.5 pH units.
*** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
**** See table below for quarterly sampling.

Minimum Sampling Requirements			
Quarter	**Months**	**Oil & Grease**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

Note 1 - Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

Note 2 - This permit contains a Total Residual Chlorine (TRC) limit.

(a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

(b) Disinfection is required during the recreational season from April 1 through October 31." Do not chlorinate during the non-recreational months.

(c) Do not chemically de-chlorinate **if it is not needed to meet the limits in your permit.**

(d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as "0 µg/L" TRC.

TABLE B.
INFLUENT MONITORING REQUIREMENTS

The facility is required to meet a removal efficiency of 65% or more as a monthly average. The monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. To determine removal efficiencies, the influent wastewater shall be monitored by the permittee as specified below:

SAMPLING LOCATION AND PARAMETER(S)	UNITS	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand$_5$	mg/L	once/quarter****	grab
Total Suspended Solids	mg/L	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2013.

**** See table below for quarterly sampling.

Minimum Sampling Requirements			
Quarter	**Months**	**Influent Parameters**	**Report is Due**
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

C. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated October 1, 1980 and August 15, 1994, and hereby incorporated as though fully set forth herein.

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.

D. SPECIAL CONDITIONS (continued)

(b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
(c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.

4. Water Quality Standards
(a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
(b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
(1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
(2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
(3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
(4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
(5) There shall be no significant human health hazard from incidental contact with the water;
(6) There shall be no acute toxicity to livestock or wildlife watering;
(7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
(8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

5. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:
(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
(1) One hundred micrograms per liter (100 µg/L);
(2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
(3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
(4) The level established in Part A of the permit by the Director.
(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

6. Report as no-discharge when a discharge does not occur during the report period.

7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

D. SPECIAL CONDITIONS (continued)

9. The permittee shall submit a report annually in January to the Southeast Regional Office with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the collection system serving the facility for the previous year.

10. Bypasses are not authorized at this facility and are subject to 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3)(i), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Southeast Regional Office.

11. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

12. A least one gate must be provided to access the wastewater treatment facility and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform operational monitoring, sampling, maintenance, mowing, or for inspections by the Department.

13. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be SEWAGE TREATMENT FACILITY—KEEP OUT. Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.

14. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.

15. An all-weather access road shall be provided to the treatment facility.

16. The discharge from the wastewater treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

17. A minimum of two (2) feet freeboard must be maintained in the lagoon cell.

18. The berms of the lagoon shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

19. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the lagoon and to divert stormwater runoff around the lagoon and protect embankments from erosion.

D. SPECIAL CONDITIONS (continued)

20. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
001	100%	ONCE PER PERMIT CYCLE	24 hr. composite***	Any

*** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampler.

Dilution Series						
100%	50% effluent	25% effluent	12.5% effluent	6.25% effluent	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

(a) Test Schedule and Follow-Up Requirements

(1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.

(i) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.

(ii) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analysis performed upon any other effluent concentration.

(iii) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.

(2) The WET test will be considered a failure if mortality observed in effluent concentrations for either specie, equal to or less than the AEC, is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available, synthetic laboratory control water may be used.

(3) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.

(4) If the effluent fails the test for BOTH test species, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met: Note: Written request regarding single species multiple dilution accelerated testing will be address by THE WATER PROTECTION PROGRAM on a case by case basis.

(i) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.

(ii) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

(5) Follow-up tests do not negate an initial failed test.

(6) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.

(7) Additionally, the following shall apply upon failure of the third follow up MULTIPLE DILUTION test The permittee should contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact THE WATER PROTECTION PROGRAM upon the third follow up test failure, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of the automatic trigger or DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

(8) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

D. SPECIAL CONDITIONS (continued)

(9) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.

(10) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.

(11) Submit a concise summary in tabular format of all WET test results with the annual report.

(b) Test Conditions

(1) Test Type: Acute Static non-renewal

(2) All tests, including repeat tests for previous failures, shall include both test species listed below unless approved by the department on a case by case basis.

(3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

(4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.

(5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.

(6) Tests will be run with 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent, and reconstituted water.

(7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

(8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

(9) Whole-effluent-toxicity test shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms

E. SCHEDULE OF COMPLIANCE

Ammonia as N

The facility shall attain compliance with final effluent limitations for Ammonia as N as soon as reasonably achievable or no later than **7 years** of the effective date of this permit.

1. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from **May 1, 2013**.

2. Within **7 years** of the effective date of this permit (May 1, 2020), the permittee shall attain compliance with the final effluent limits, for Ammonia as N.

Hydraulic Overloading

1. By **May 1, 2014,** the permittee shall submit to the Southeast Regional Office a written plan to reduce Inflow and Infiltration (Plan) into the sewer collection system. The Plan will include a schedule for locating sources of inflow and infiltration, describing the sources and their believed causes, and rate its priority for correction. The suggested format for the Plan would be to divide the collection system into designated areas that would be prioritized by the permittee based on currently known problem areas with target dates to TV or smoke test the lines within a given area. Lines that are newer than 15 years old may be excluded from the plan unless the permittee has reason to believe they are a major source of inflow or infiltration. Once the Plan is approved by the Department, the permittee will immediately implement the plan.

2. By **January 28th of each year**, following approval of the Plan, the permittee must report the findings of the work accomplished during the previous year for the targeted area(s) and note which inflow/infiltration problems were corrected. In the event that revisions to the Plan are necessary, the permittee will submit requested revisions to the Plan to the Southeast Regional Office for review and approval.

D. SPECIAL CONDITIONS (continued)

Operator Certification

1. The City of Greenville is required to have a Certified Operator for the Greenville Wastewater Treatment Facility in accordance with 10 CSR 20-9.020(2)(A). Under the current facility description of the Greenville Wastewater Treatment Facility, a Certified C Level Operator is required.

2. The City of Greenville will obtain the services of a Certified C Level Operator by **November 1, 2013.**

3. The City of Greenville shall submit a written report to the Southeast Regional Office by **December 1, 2013,** which contains the Certified Operators name, certification number, and a copy of the contract between the City of Greenville and the Certified Operator.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0093432
GREENVILLE WWTF

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Minor ☒

Part I – Facility Information

Facility Type: POTW - SIC #4952

Facility Description:
Two-cell aerated lagoon / two sand filters / chlorination / de-chlorination / sludge retained in lagoon

Have any changes occurred at this facility or in the receiving water body that effects effluent limit derivation?
☒ - No.

Application Date: 03/21/2012
Expiration Date: 12/07/2011

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	0.115	Equivalent to Secondary/Tertiary	Domestic	1.0

Receiving Water Body's Water Quality & Facility Performance History:
No stream surveys have been conducted for the facility. The facility failed to submit Dissolved Oxygen on the December 2006, January, February, March, April, May, June, July, August, September, October, November, and December 2007, January, February, March, April, May, June, July, August, September 2008 Discharge Monitoring Reports (DMRs). The facility also failed to submit Oil & Grease on the December 2006 and January 2007 DMRs. The facility exceeded effluent limitations for Fecal Coliform on the April and October 2007, May and June 2008, April, June, July, August, September, October 2009, September 2010, and April and July 2011 DMRs. This facility was last inspected on December 9, 2009. The inspection showed the following unsatisfactory features at the facility; Fecal Coliform limits were exceeded in April, June, July, August, and September of 2009, effluent flow meter is not operable, and problems with Inflow and Infiltration (I & I) have been noted in the facility's DMRs
.

Comments:
The permit writer noted hydraulic overloading while reviewing the DMRs for the facility. Approximately half of the DMRs reviewed had flows in excess of the design flow, with 45% of the DMRs showing daily maximum flows in excess of 200% of the design flow. Due to the hydraulic overloading, the facility was given additional points on the operator certification sheet which caused the facility to require a "C" Certification Level operator.

Part II – Operator Certification Requirements

Applicable ☒; This facility is required to have a certified operator.

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Check boxes below that are applicable to the facility;

- Owned or operated by or for:
  - Municipalities ☒
  - Public Sewer District: ☐
  - County ☐
  - Public Water Supply Districts: ☐
  - Private sewer company regulated by the Public Service Commission: ☐
  - State or Federal agencies: ☐

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections.

This facility currently requires an operator with a C Certification Level. Please see **Appendix - Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operator's Name: Michael W. Johnson
Certification Number: 5034
Certification Level: D

The listing of the operator above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the name listed on the operating permit application has the correct and applicable Certification Level.

☒ - This facility does not currently retain an operator with the correct level of certification required to operate the wastewater treatment facility. Missouri Clean Water Law and its implementing regulation 10 CSR 20-9.020(2)(F) allows the Department to develop a schedule of activities including the date by which compliance shall be obtained. This schedule of activities shall be established in this operating permit as a Schedule of Compliance.

Part III– Operational Monitoring

As per [10 CSR 20-9.010(4))], the facility is required to conduct operational monitoring.

Part IV – Receiving Stream Information

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	EDU**
Unnamed tributary to St. Francis River	U	NA	General Criteria	08020202-0503	Ozark/Upper St. Francis/Castor
St. Francis River	P	2835	IRR, LWW, AQL, CLF, WBC-A, SCR		

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).
** - Ecological Drainage Unit

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Unnamed tributary to St. Francis River (U)	-	-	-

MIXING CONSIDERATIONS
Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].
Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part V – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ☒; The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

ANTI-BACKSLIDING:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

☒ - All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDEGRADATION:
In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ - No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:
As per [10 CSR 20-6.010(3)(B)], …An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:
Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: http://dnr.mo.gov/env/wpp/pub/index.html, items WQ422 through WQ449.

☒ - Permittee is not authorized to land apply biosolids. Sludge/biosolids are removed by contract hauler, incinerated, stored in the lagoon, etc. The permittee must submit a sludge management plan for approval that details removal and disposal plans when sludge is to be removed from lagoons.

COMPLIANCE AND ENFORCEMENT:
Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable ☒; The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Not Applicable ☒; The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL ANALYSIS (RPA):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Applicable ☒; A RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS.**

REMOVAL EFFICIENCY:
Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

Applicable ☒; Equivalent to Secondary Treatment is 65% removal [40 CFR Part 133.105(a)(3) & (b)(3)].

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):
Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations.

Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

☒ - In accordance with Missouri RSMo §644.026.1.(15) and 40 CFR Part 122.41(e), the permittee is required to develop and/or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance. In addition, the Department considers the development of this program as an implementation of this condition. Additionally, 40 CFR Part 403.3(o) defines a POTW to include any device and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW Treatment Plant.

At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002). The CMOM identifies some of the criteria used by the EPA to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Applicable ☒; The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)]. The facility has been given a schedule of compliance to meet final effluent limits for Ammonia as N. A seven year Schedule of Compliance was given as it will take at least seven years due to the need for a vote to pass a bond issue, application process through the SRF program, engineering and construction.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):
In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities: (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Not Applicable ☒; At this time, the permittee is not required to develop and implement a SWPPP.

VARIANCE:
As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ☒; This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ☒; Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$Ce = \frac{(Qe + Qs)C - (Cs \times Qs)}{(Qe)}$$ (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration
Cs = upstream concentration
Qs = upstream flow
Ce = effluent concentration
Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":
Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:
There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ☒; A WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARDS:
Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the Department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:
A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Applicable ☒; Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(3)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply with the MCWL and CWA; 644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by facilities meeting the following criteria:

☐ Facility is a designated Major.
☒ Facility continuously or routinely exceeds its design flow.
☐ Facility (industrial) that alters its production process throughout the year.
☐ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
☐ Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH_3)
☒ Facility is a municipality or domestic discharger with a Design Flow ≥ 22,500 gpd.
☐ Other – please justify.

40 CFR 122.41(M) - BYPASSES:
The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from "bypassing" untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri's Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

Not Applicable ☒; This facility does not anticipate bypassing.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

Not Applicable ☒; This facility does not discharge to a 303(d) listed stream.

Part VI – Effluent Limits Determination

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]: ☐
Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
Losing [10 CSR 20-7.015(4)]: ☐
Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
Special Stream [10 CSR 20-7.015(6)]: ☐
Subsurface Water [10 CSR 20-7.015(7)]: ☐
All Other Waters [10 CSR 20-7.015(8)]: ☒

OUTFALL #001 – MAIN FACILITY OUTFALL

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Modified	Previous Permit Limitations
Flow	MGD	1	*		*	No	*/*
BOD_5	mg/L	1, 4		65	45	No	65/45
TSS	mg/L	1, 4		120	80	No	120/80
pH	SU	1, 4	≥ 6.5			Yes	≥ 6.0
Ammonia as N (April 1 – Sept 30)	mg/L	2, 3, 5	4.0		1.4	Yes	*/*
Ammonia as N (Oct 1 – March 31)	mg/L	2, 3, 5	8.9		2.8	Yes	*/*
Dissolved Oxygen (DO)**	mg/L	3, 9	*		*	No	*/*
Escherichia coli	***	1, 3		630	126	Yes	Previously Fecal Coliform
Chlorine, Total Residual	µg/L	1, 3	17 (0.13ML)		8 (0.13ML)	Yes	19/19
Oil & Grease (mg/L)	mg/L	1, 3	15		10	No	15/10
Whole Effluent Toxicity (WET) Test	% Survival	11	Please see WET Test in the Derivation and Discussion Section below.				

* - Monitoring requirement only.
** - For DO the Daily Maximum is a Daily Minimum and the Monthly Average is a Monthly Average Minimum.
*** - # of colonies/100mL; the Monthly Average for *E. coli* is a geometric mean.
**** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:
1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
6. Antidegradation Review
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET Test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5).**

  ☒ – Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **Total Suspended Solids (TSS).**

  ☒ – Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**

- **pH**. Effluent limitation range is ≥ 6.5 Standard pH Units (SU), as per the applicable section of 10 CSR 20-7.015. pH is not to be averaged.

- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3] default pH 7.8 SU Background total ammonia nitrogen = 0.01 mg/L. No mixing considerations allowed; therefore, WLA = appropriate criterion.

Season	Temp (^oC)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30

Chronic WLA: $C_e = ((0.115 + 0.0)1.5 – (0.0 * 0.01))/0.115$
$C_e = 1.5$ mg/L

Acute WLA: $C_e = ((0.115 + 0.0)12.1 – (0.0 * 0.01))/0.115$
$C_e = 12.1$ mg/L

LTA_c = 1.5 mg/L (0.751) = 1.13 mg/L [CV = 0.696, 99th Percentile, 30 day avg.]
LTA_a = 12.1 mg/L (0.283) = 3.42 mg/L [CV = 0.696, 99th Percentile]

Use most protective number of LTA_c or LTA_a.

MDL = 1.13 mg/L (3.54) = 4.0 mg/L [CV = 0.696, 99th Percentile]
AML = 1.13 mg/L (1.22) = 1.4 mg/L [CV = 0.696, 95th Percentile, n =30]

Winter: October 1 – March 31

Chronic WLA: $C_e = ((0.115 + 0.0)3.1 – (0.0 * 0.01))/0.115$
$C_e = 3.1$ mg/L

Acute WLA: $C_e = ((0.115 + 0.0)12.1 – (0.0 * 0.01))/0.115$
$C_e = 12.1$ mg/L

LTA_c = 3.1 mg/L (0.722) = 2.24 mg/L [CV = 0.794, 99th Percentile, 30 day avg.]
LTA_a = 12.1 mg/L (0.251) = 3.04 mg/L [CV = 0.794, 99th Percentile]

Use most protective number of LTA_c or LTA_a.

MDL = 2.24 mg/L (3.99) = 8.9 mg/L [CV = 0.794, 99th Percentile]
AML = 2.24 mg/L (1.25) = 2.8 mg/L [CV = 0.794, 95th Percentile, n =30]

- **Dissolved Oxygen**. Monitoring requirement only. Monitoring for dissolved oxygen is included to determine whether reasonable potential to exceed water quality standards exists after the discharge begins.

- ***Escherichia coli (E. coli)***. Monthly average of 126 per 100 ml as a geometric mean and Weekly Average of 630 during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.031(4)(C). Weekly Average effluent variability will be evaluated in development of a future effluent limit. An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d).

- **Total Residual Chlorine (TRC)**. Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

  Chronic WLA: $C_e = ((0.115 + 0.0)10 – (0.0 * 0.0))/0.115$
  $C_e = 10$ µg/L

  Acute WLA: $C_e = ((0.115 + 0.0)19 – (0.0 * 0.0))/0.115$
  $C_e = 19$ µg/L

  $LTA_c = 10\ (0.527) = 5.3$ µg/L [CV = 0.6, 99th Percentile]
  $LTA_a = 19\ (0.321) = 6.1$ µg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 5.3 (3.11) = **17** µg/L [CV = 0.6, 99th Percentile]
  AML = 5.3 (1.55) = **8** µg/L [CV = 0.6, 95th Percentile, n = 4]

- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

- **WET Test**. WET Testing schedules and intervals are established in accordance with the Department's Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.
  ☒ Acute

  ☒ No less than **ONCE/PERMIT CYCLE:**
  ☒ Municipality or domestic facility with a design flow ≥ 22,500 gpd, but less than 1.0 MGD.

  Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to unclassified, Class C, Class P (with default Mixing Considerations), or Lakes [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] are 100%, 50%, 25%, 12.5%, & 6.25%.

Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	twice/week	once/month
BOD_5	once/month	once/month
TSS	once/month	once/month
pH	once/month	once/month
Ammonia as N	once/month	once/month
E. coli	once/month	once/month
Total Residual Chlorine	once/month	once/month
Dissolved Oxygen	twice/week	once/month
Oil & Grease	once/quarter	once/quarter

Sampling Frequency Justification:
Sampling and Reporting Frequency was retained from previous permit except for Flow, which was increased to twice per week due to the hydraulic overloading at the facility, Oil & Grease, which was reduced to once per quarter, and Dissolved Oxygen, which was increased to twice per week as previous results showed some results below 5 mg/L.

Sampling Type Justification
As per 10 CSR 20-7.015, samples collected for lagoons shall be grab samples

Part VII – Finding of Affordability

Pursuant to Section 644.145, RSMo., the Department is required to determine whether a permit or decision is affordable and makes a finding of affordability for certain permitting and enforcement decisions. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

☒ Applicable; The Department is required to determine findings of affordability because the permit applies to a **combined or separate sanitary sewer system for a publically-owned treatment works.**

Finding of affordability - The department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644. 145.3. See **Appendix – Affordability Analysis**

Part VIII – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

☒ - The Public Notice period for this operating permit was from March 15, 2013 to April 15, 2013. No responses received.

DATE OF FACT SHEET: OCTOBER 31, 2012

COMPLETED BY:

BRANT FARRIS, ENVIRONMENTAL SPECIALIST III
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(660) 385-8061
brant.farris@dnr.mo.gov

Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Maximum Population Equivalent (P.E.) served (Max 10 pts.)	1 pt./10,000 PE or major fraction thereof.	
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	
EFFLUENT DISCHARGE RECEIVING WATER SENSITIVITY:		
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact	1	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
PRELIMINARY TREATMENT - Headworks		
Screening and/or comminution	3	
Grit removal	3	
Plant pumping of main flow (lift station at the headworks)	3	
PRIMARY TREATMENT		
Primary clarifiers	5	
Combined sedimentation/digestion	5	
Chemical addition (except chlorine, enzymes)	4	
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
Push – button or visual methods for simple test such as pH, Settleable solids	3	
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	5
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
ALTERNATIVE FATE OF EFFLUENT		
Direct reuse or recycle of effluent	6	
Land Disposal – low rate	3	
High rate	5	
Overland flow	4	
Total from page **ONE (1)**	----	8

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
VARIATION IN RAW WASTE (highest level only) (DMR exceedances and Design Flow exceedances)		
Variation do not exceed those normally or typically expected	0	
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	4
Raw wastes subject to toxic waste discharge	6	
SECONDARY TREATMENT		
Trickling filter and other fixed film media with secondary clarifiers	10	
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	
Stabilization ponds without aeration	5	
Aerated lagoon	8	8
Advanced Waste Treatment Polishing Pond	2	
Chemical/physical – without secondary	15	
Chemical/physical – following secondary	10	10
Biological or chemical/biological	12	
Carbon regeneration	4	
DISINFECTION		
Chlorination or comparable	5	5
Dechlorination	2	2
On-site generation of disinfectant (except UV light)	5	
UV light	4	
SOLIDS HANDLING - SLUDGE		
Solids Handling Thickening	5	
Anaerobic digestion	10	
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Total from page **TWO (2)**	----	29
Total from page **ONE (1)**	---	8
Grand Total	---	C

☐ - A: 71 points and greater
☐ - B: 51 points – 70 points
☒ - C: 26 points – 50 points
☐ - D: 0 points – 25 points

APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Total Ammonia as Nitrogen (Summer) mg/L	12.1	40.06	1.5	40.06	30.00	18.2/1.13	0.696	2.20	YES
Total Ammonia as Nitrogen (Winter) mg/L	12.1	54.66	3.1	54.66	30.00	22.7/0.281	0.794	2.41	YES

N/A – Not Applicable
* - Units are (µg/L) unless otherwise noted.
** - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent. If the number of samples is < 10, then the default CV value must be used in the WQBEL for the applicable constituent.
*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).
n – Is the number of samples.
MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.
RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

APPENDIX – AFFORDABILITY ANALYSIS:

Missouri Department of Natural Resources
Water Protection Program
Affordability Determination and Finding
(In accordance with RSMo 644.145)

Greenville Wastewater Treatment Facility, Permit Renewal
Permittee Name
#MO-0093432

Section 644.145 RSMo requires DNR to make a "finding of affordability" when "issuing permits under" or "enforcing provisions of" state or federal clean water laws "pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works."

Description:

The Greenville Wastewater Treatment Facility is located approximately 0.1 miles southeast of Poplar Street and Sycamore Street intersection, Greenville, Missouri. The facility discharges to an unnamed tributary to St. Francis River.

Residential Connections:	220
Commercial Connections:	10
Total Connections:	230

New Permit Requirements or Requirements Now Being Enforced:

The facility is being required to; upgrade to meet effluent limitations for Ammonia as N, pH, and E. coli, conduct a Whole Effluent Toxicity Test once per year, conduct quarterly influent monitoring for Biochemical Oxygen Demand and Total Suspended Solids, and submit an written plan to reduce Inflow and Infiltration in the collection system, and submit an annual report that documents the findings of the work accomplished during the previous year for the targeted area(s) and note which inflow/infiltration problems were corrected, and obtaining the services of a Certified C level wastewater operator.

Range of Anticipated Costs Associated with Complying with Requirements:

As the facility will be required to upgrade to meet effluent limitations for Ammonia, estimated costs for four different treatment types to comply with the requirements, range from $590,108 to $1,574,727. The estimated costs depend on the treatment type selected by the facility. Assumptions in these calculations include but are not limited to; interest rate, design life of the facility, inflation factor, administration labor costs, and laboratory labor costs. Other options that may be available to the facility but not reviewed during the review include no-discharge land application and connection to an available facility with an area-wide management plan. The plan to address Inflow and Infiltration anticipates a multi-year incremental approach to reduce Inflow and Infiltration into the wastewater collection system. The incremental approach should allow the city to finance this work without a rate increase. The cost of the test to become a Certified C level wastewater operator is $45.

(1) A community's financial capability and ability to raise or secure necessary funding

*(examine key indicators of the communities ability to raise funds)***;**

Current User Rates (monthly flat rate): $12.50

Rate Capacity or Pay as You Go Option:

Municipal Bond Rating (if applicable): None Noted

Bonding Capacity: None Noted
(General Obligation Bond capacity allowed by constitution:
cities=up to 20% of taxable tangible property
sewer districts=up to 5% of taxable tangible property)

Current outstanding debt: $0

Other indicators:

The City of Greenville appears to have the ability to raise or secure funding to pay for the required upgrades to the facility based on their affordability analysis.

(2) Affordability of pollution control options for the individuals or households of the community;

Current annual operating costs (exclude depreciation): $32,366
Current annual user rate: $150
Estimated capital cost of pollution control options: $590,108 - $1,574,727
Annual cost of additional *(operating costs and debt service)*: $90,331 - $118,929
Estimated resulting annual user rate: $348 - $660
Median Household Income $16,043
Usage Rates as a percent of Median Household Income: 2.1% - 4.1%
(Rate/MHI)

Check Appropriate Box	Financial Impact	Residential Indicatory (Usage Rate as a percent of Median Household Income)
☐	Low	Less than 1% MHI
☐	Medium	Between 1% and 2% MHI
☐	High	Greater than 2% MHI

A residential user currently pays a flat $12.50 per month, based on the sewer rate information contained in the Affordability Information Form completed by the facility and received by the Department on September 20, 2012. With the additional costs of upgrading the facility to meet effluent limitations a rate increase would be necessary. The approximate monthly user rate would increase to $29 or $55 depending on which treatment option is chosen by the facility, which is about 2.1% or 4.1% of the MHI. This would result in a high financial impact to the users.

(3) An evaluation of the overall costs and environmental benefits of the control technologies;

The following is a discussion of the environmental benefits of the conditions of the permit. Ammonia (NH3) is toxic to aquatic life and can damage habitat for ammonia sensitive species. Removal of NH3 is beneficial to the environment because this can reduce damage to aquatic life in accordance with 10 CSR 20-7 and the Clean Water Act. Removal can enable the stream habitat to support a more healthy and diverse population of aquatic life. This facility has Ammonia as N final effluent limitations based on the Water Quality Standards (WQS) found in the above citation. The following details the calculations converting these limitations found in the permit in milligrams per liter (mg/L) to pounds of Ammonia allowed per day (lbs./day):

Pounds of Ammonia as N per day = (flow, MGD) x (concentration of ammonia limitation, mg/L) x (conversion factor, 8.34)

Current Performance (2007-2011 DMR data)
Actual Flow = 0.0787 MGD:

Summer Season:				
Monthly Average	=	0.0787 x 6.6 x 8.34	=	4.3 lbs./day
Winter Season:				
Monthly Average	=	0.0787 x 8.4 x 8.34	=	5.5 lbs./day

Necessary Performance
Design Flow = 0.074 MGD:

Summer Season:				
Monthly Average	=	0.074 x 1.4 x 8.34	=	0.9 lbs./day
Winter Season:				
Monthly Average	=	0.074 x 2.8 x 8.34	=	1.7 lbs./day

Environmental Benefit to Ammonia Removal

Design Flow = 0.074 MGD:		Summer	Winter
Current average performance (lbs./day)	=	4.3	5.5
Necessary average performance limitations (lbs./day)	=	-0.9	-1.7
Environmental Benefit (lbs./day)	=	3.4	3.8

The facility would be contributing to the reduction of damage to aquatic life by removing the value of ammonia shown above. The Department speculates that based on the information above, it does not appear that the facility will be able to meet the new final effluent limitations.

(4) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:

(a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations; and

(b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained;

Potentially Distressed Populations- City of Greenville	
Unemployment	9.6%
Median Household Income	$16,043
Percent Population Growth/Decline (1990-2010)	+16.9%
Percent of Households in Poverty	47.9%

Opportunity for cost savings or cost avoidance:

None Noted

Opportunity for changes to implementation/compliance schedule:

The Department has included a seven (7) year time Schedule of Compliance for the facility to meet the final effluent limitations for Ammonia as N in the draft permit.

(5) An assessment of other community investments relating to environmental improvements;

None noted

(6) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;

See Section (2) of this analysis for the residential indicator as outlined in the above-referenced EPA guidance.

Secondary indicators for consideration

Socioeconomic, Debt and Financial Indicators

Indicators	Strong (3 points)	Mid-Range (2 points)	Weak (1 point)	Score
Bond rating indicator	Above BBB or Baa	BBB or Baa	Below BBB or Baa	NA
Overall net debt as a % of full market property value	Below 2%	2% - 5%	Above 5%	3
Unemployment Rate	>1% below Missouri average	± 1% of Missouri average	>1% above Missouri average	1
Median household income	More than 25% above Missouri MHI	± 25% of Missouri MHI	More than 25% below Missouri average	1
Sales tax revenues as a % of full market property value	Below 2%	2% - 4%	Above 4%	2
Property tax collection rate	Above 98%	94% - 98%	Below 94%	NA

Average Score for Financial Capability Matrix: 1.75
Residential Indicator (from Criteria #2 above): 2.1% - 4.1%

Financial Capability Matrix

Financial Capability Indicators Score from above ↓	**Residential Indicator (User rate as a % of MHI)**		
	Low (Below 1%)	Mid-Range (Between 1.0% and 2.0%	High (Above 2.0%)
Weak (below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (1.5 – 2.5)	Low Burden	Medium Burden	High Burden
Strong (above 2.5)	Low Burden	Low Burden	Medium Burden

Estimated Financial Burden: High

(7) An assessment of any other relevant local community economic condition.

Greenville's population increased 16.9% from 1990-2010. In terms of economic strength, Wayne County is below average when compared to other counties in the State. The per capita income is 32% below the State's average. [8]

In terms of retail Sales, Wayne County loses retail customers from surrounding counties and the County residents spend less than the state average on retail goods and services. The buying power index of Wayne County residents is average compared to the rest of the regional economy. [9]

Conclusion and Finding

This affordability analysis finds that the actions subject to this analysis are affordable. The Department identified the actions for which an affordability analysis is required under Section 644.145 RSMo. The City of Greenville applied for a renewal of Missouri State Operating Permit #MO-0093432. Changes to the permit include:

1) Establishing effluent limitations for Ammonia as N, pH, and E. coli.
2) Establishing a Whole Effluent Toxicity Test to be conducted once per year.
3) Establishing quarterly influent monitoring for Biochemical Oxygen Demand and Total Suspended Solids.
4) Requiring the facility to submit a written plan to reduce Inflow and Infiltration in the collection system, and submit an annual report that documents the findings of the work accomplished during the previous year for the targeted area(s) and note which inflow/infiltration problems were corrected.

The Department considered all seven (7) of the criteria presented in subsection 644.145.3 when evaluating the affordability of the relevant actions. Taking into consideration these criteria, this analysis examined whether the above referenced permit modifications affects the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. As a result of reviewing the above criteria, the Department hereby finds that the action described above will result in a high burden with regard to the community's overall financial capability and a high financial impact for most individual customers/households.

Reference Page

[1] City of Greenville Affordability Information Form

[2] Unemployment data from Missouri Department of Economic Development (February 2012) – http://www.missourieconomy.org/pdfs/urel1202.pdf

[3] Median Household Income data from American Community Survey – Median income in the past 12 months – http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

[4] 2010 Census Population Data - http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t 2000 Census Population Data - http://www.census.gov/popest/data/cities/totals/2009/tables/SUB-EST2009-04-29.xls 1990 Census Population Data - http://www.census.gov/prod/cen1990/cp1/cp-1-27.pdf

[5] Poverty data – American Community Survey - http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

[6] CAPDETWORKS cost estimate summary.xls

[7] http://www.missourieconomy.org/indicators/wages/pci10county.stm

[8] http://www.missourieconomy.org/pdfs/sc_wia_retail_trade_analysis.pdf

NOV 17 2011 WATER PROTECTION PROGRAM

AP 8798

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM B – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE (≤100,000 gallons per day) UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER: NONE SENT	
DATE RECEIVED: 11/17/11	FEE SUBMITTED: ∅

K8

NOTE ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. This application is for:
   - ☐ An operating permit and antidegradation review public notice.
   - ☐ A construction permit following an appropriate operating permit and antidegradation review public notice.
   - ☐ A construction permit and a concurrent operating permit and antidegradation review public notice.
   - ☐ A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).
   - ☐ An operating ~~permit for a new or~~ unpermitted facility. Construction Permit # ____
   - ☒ An operating permit renewal: Permit #MO- 0093432 Expiration Date ____
   - ☐ An operating ~~permit modification~~: Permit #MO- ____ Reason:

1.1 Is this a Federal/State Funded Project? ☐ YES ☐ NO Funding Agency/Project #: ____

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? ☐ YES ☐ NO

2. FACILITY (Outfall ____ of ____)

NAME		TELEPHONE WITH AREA CODE
City of Greenville		573-224-3911
ADDRESS (PHYSICAL)	CITY	STATE / ZIP CODE
108 Walnut St.	Greenville	Mo. / 63944

2.1 **LEGAL DESCRIPTION:** ¼ SW ¼ SE ¼ Sec. 1 T 28N R 5E County Wayne

2.2 UTM Coordinates Easting (X): ____ Northing (Y): ____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Unnamed tributary to the St. Francois River

3. OWNER

NAME	E-MAIL ADDRESS	TELEPHONE WITH AREA CODE
City of Greenville		573-224-3911
ADDRESS	CITY	STATE / ZIP CODE
P.O. Box 427	Greenville	Mo. / 63944

3.1 Request review of draft permit prior to Public Notice? ☐ YES ☒ NO

4. CONTINUING AUTHORITY: Permanent organization which will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME		TELEPHONE WITH AREA CODE
City of Greenville		573-224-3911
ADDRESS	CITY	STATE / ZIP CODE
P.O. Box 427	Greenville	Mo. / 63944

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE WITH AREA CODE
Mike Johnson	5034	

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE WITH AREA CODE
Don Scowden	Mayor	573-224-3911

7.0 ADDITIONAL FACILITY INFORMATION

7.1 Description of facilities (Attach additional sheet if required). Attach a 1" = 2,000' scale U.S. Geological Survey topographic map showing location of all outfalls and downstream landowners. (See Item 9.)

7.2 Facility SIC code: 4952 Discharge SIC code: 4952 Facility NAICS code: 92110 Discharge NAICS code: 1

7.3 Number of people presently connected or population equivalent (P.E.) 541 Design P.E. 1070
Number of units presently connected: Homes 243 Trailers 27 Apartments 9 Other ____
Design flow for this outfall: 740000 Total design flow for the facility: 740000 Actual flow for this outfall: 40000
Commercial Establishment: Daily number of employees working 27 Daily number of customers/guests 405

7.4 Length of pipe in the sewer collection system? 7 feet/miles (Please denote which unit is appropriate.)

7.5 Does any bypassing occur in the collection system or at the treatment facility? ☒ Yes ☐ No (If yes, attach explanation.)

7.6 Does significant infiltration occur in the collection system? ☒ Yes ☐ No (If yes, attach explanation and proposed repair.)

7.7 Is industrial waste discharged to the facility identified in Item 2? ☐ Yes ☒ No (If yes, see instructions.)

7.8 Will the discharge be continuous through the year? ☒ Yes ☐ No
   a. Discharge will occur during the following months: Twelve Months/Year
   b. How many days of the week will the discharge occur? 7

7.9 Is wastewater land applied? ☐ Yes ☒ No (If yes, attach Form I.)

7.10 Will chlorine be added to the effluent? ☒ Yes ☐ No
   a. If chlorine is added, what is the resulting residual? <0.13 µg/l (micrograms per liter) DPD method

7.11 Does this facility discharge to a losing stream or sinkhole? ☐ Yes ☒ No

7.12 Attach a flow chart showing all influents, treatment facilities and outfalls.

7.13 Has a waste load allocation study been completed for this facility? ☐ Yes ☒ No

7.14 List all permit violations, including effluent limit exceedances in the last five years. Attach a separate sheet if necessary. If none, write none. ____

8. SLUDGE HANDLING, USE AND DISPOSAL

8.1 Is the sludge a hazardous waste as defined by 10 CSR 25? ☐ Yes ☐ No

8.2 Sludge Production, including sludge received from others: 16.1 Design Dry Tons/Year 6.2 Actual Dry Tons/Year

8.3 Capacity of sludge holding structures:
Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge;
☐ No sludge storage is provided.

8.4 Type of Storage: ☐ Holding tank ☐ Building ☐ Basin ☐ Other (Please describe) _____ ☐ Concrete Pad

8.5 Sludge Treatment:
☐ Anaerobic Digester ☐ Lagoon ☐ Composting
☐ Storage Tank ☐ Aerobic Digester ☐ Other (Attach description)
☐ Lime Stabilization ☐ Air or Heat Drying

8.6 Sludge Use or Disposal:
☐ Land Application ☐ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
☐ Contract Hauler ☐ Incineration
☐ Hauled to Another Treatment Facility ☐ Sludge Retained in Wastewater treatment lagoon
☐ Other _____ Attach explanation sheet.
☐ Solid Waste Landfill

8.7 **PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY**
☐ By Applicant ☐ By Others (complete below)

NAME			
City of Greenville			
ADDRESS: P.O. Box 427	CITY: Greenville	STATE: Mo.	ZIP CODE: 63944
CONTACT PERSON: Don Scowden	TELEPHONE WITH AREA CODE: 573-224-3911	PERMIT NO. MO-	

8.8 SLUDGE USE OR DISPOSAL FACILITY
☐ By Applicant ☐ By Others (Please complete below.) N/A (retained in lagoon)

NAME			
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE WITH AREA CODE	PERMIT NO. MO-	

8.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
☐ Yes ☐ No (Please attach explanation)

9. DOWNSTREAM LANDOWNER (S). ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS

NAME			
Corp of Engineers (St. Louis District)			
ADDRESS: 1222 Spruce Street	CITY: St. Louis	STATE: Mo	ZIP CODE: 63103-2833

10. DRINKING WATER SUPPLY INFORMATION

10.1 WHAT IS THE SOURCE OF YOUR DRINKING WATER SUPPLY:
A. Public supply (municipal or water district water) X
If public, please give name of the public supply Wayne County P.W.S.D. #1
B. Private well _____
C. Surface water (lake, pond or stream) _____

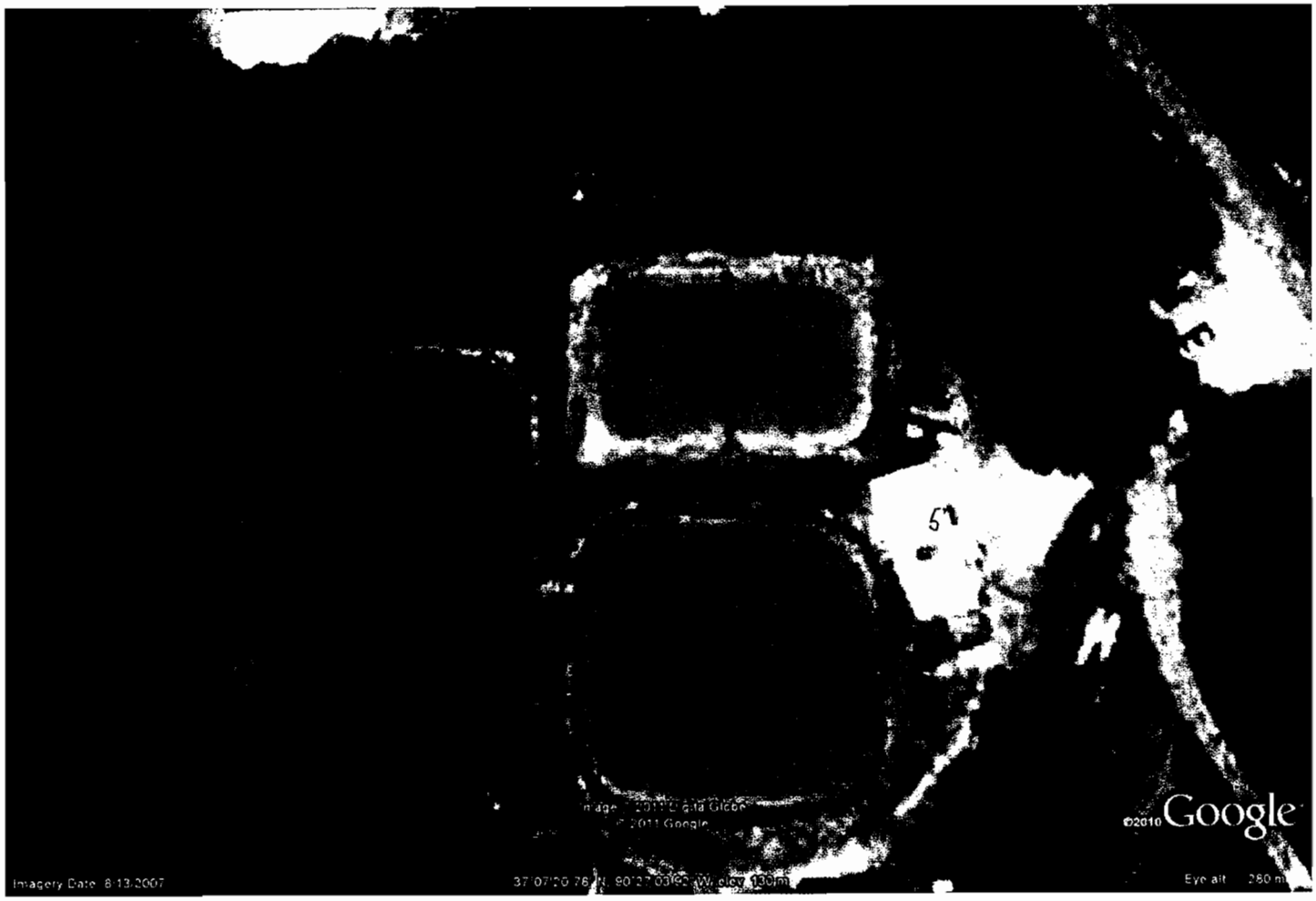
10.2 Does your drinking water source serve at least 25 people at least 60 days per year (not necessarily consecutive days)?
☒ Yes ☐ No

10.3 Does your supply serve housing which is occupied year round by the same people? This does not include housing which is occupied seasonally? ☒ Yes ☐ No

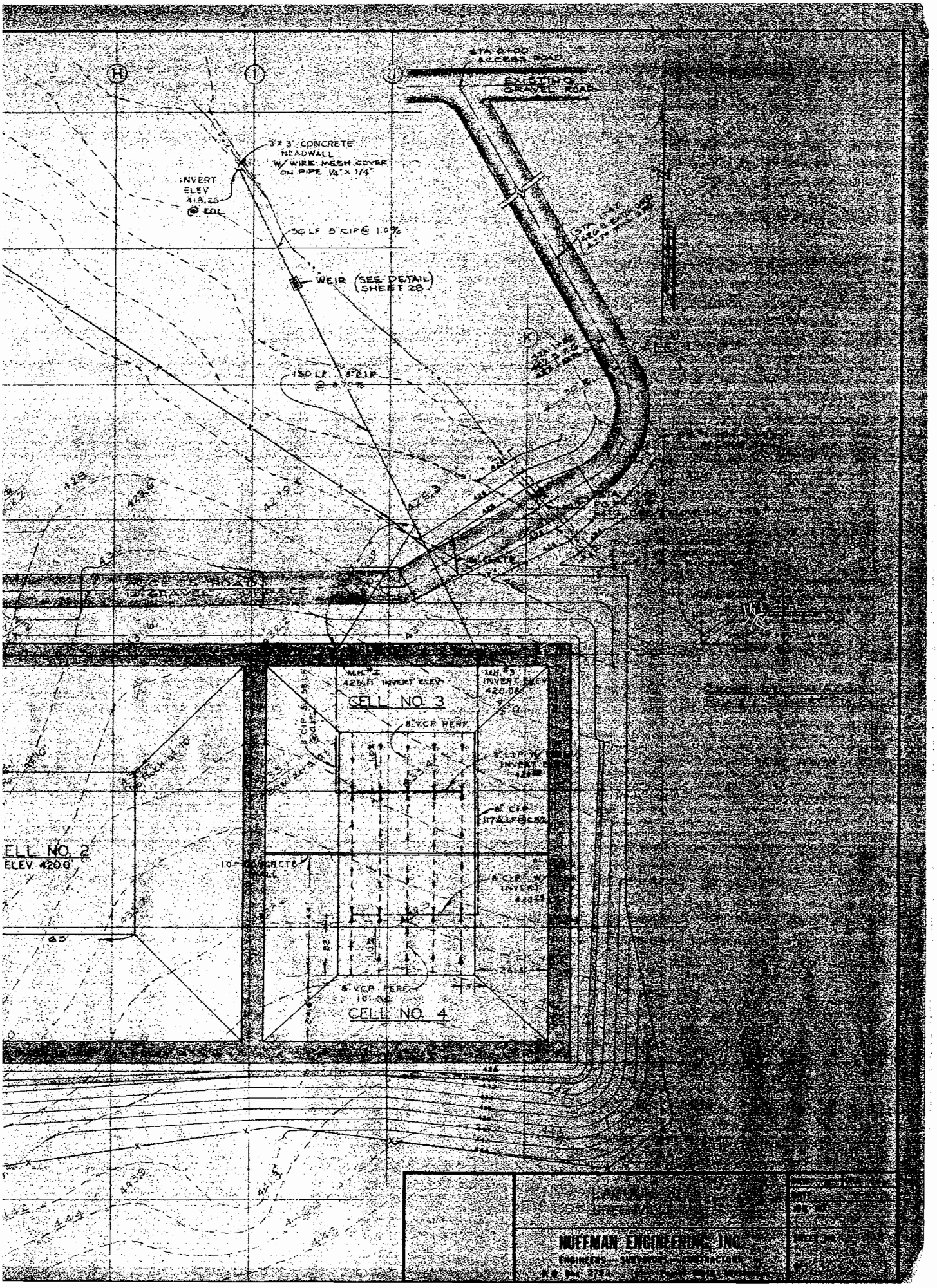
11. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.

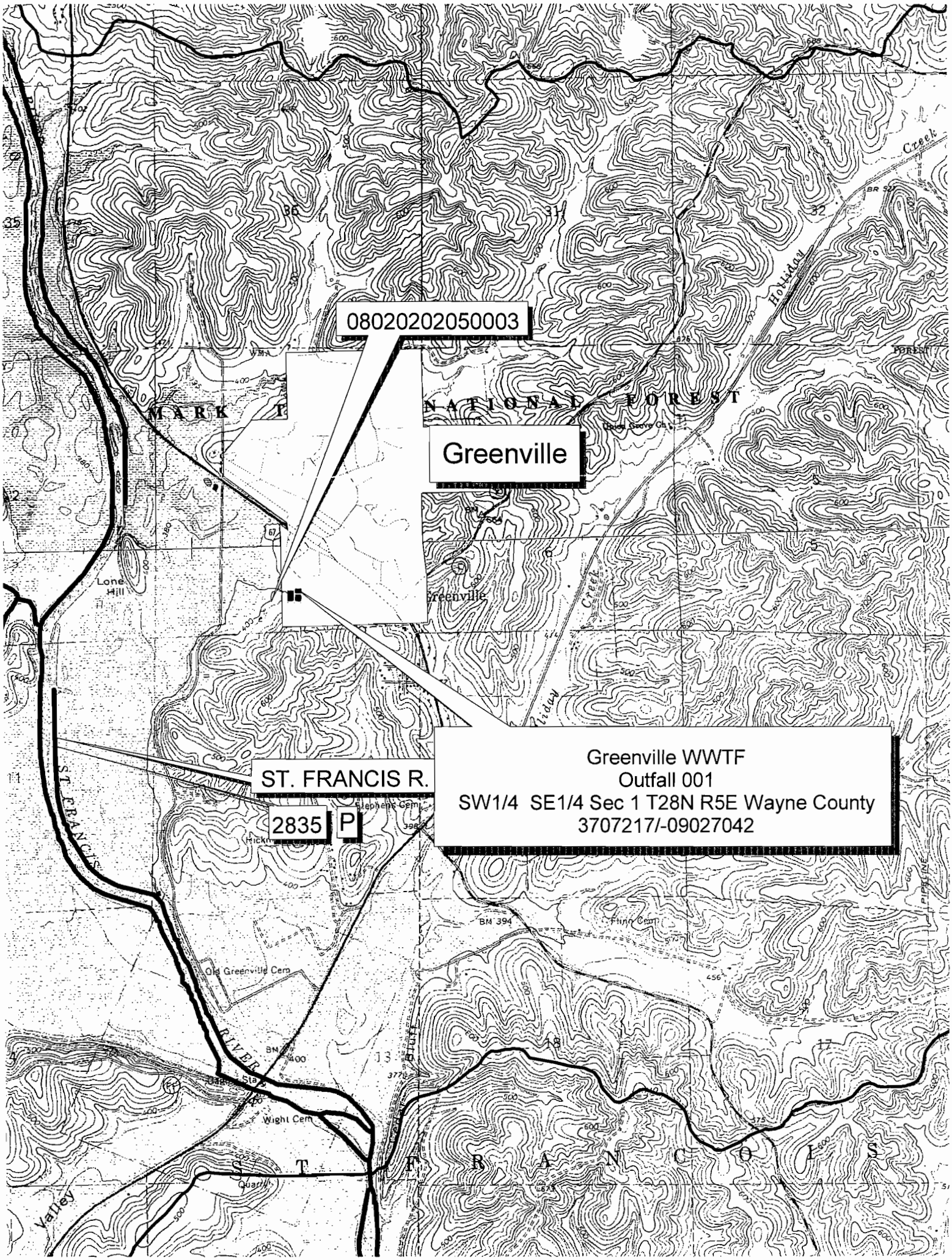
NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE WITH AREA CODE
Don Scowden (Mayor)	573-224-3911
SIGNATURE: Don Scowden	DATE SIGNED: 11/08/11

MO 780-1512 (09-08)



1. Location of outfall.
2. Point of main influent entrance.
3. Point of secondary influent entrance (gravity feed from nursing home).
4. Chlorination / Dechlorination
5. Maintenance Shed


STA 0+00
ACCESS ROAD
EXISTING GRAVEL ROAD
3'x3' CONCRETE HEADWALL W/ WIRE MESH COVER ON PIPE 1/4"x1/4"
INVERT ELEV 418.25 @ EOL
50 LF 8" CIP @ 1.0%
WEIR (SEE DETAIL SHEET 28)
150 LF 8" CIP @ 0.70%
GATE
ACCESS ROAD 12' GRAVEL SURFACE
M.H. #2 420.11 INVERT ELEV
M.H. #3 INVERT ELEV 420.06
CELL NO. 3
8" VCP PERF.
8" CIP W/ INVERT
8" CIP 117 LF @ 0.82
CELL NO. 2
ELEV. 420.0
10' CONCRETE WALL
8" CIP W/ INVERT 420.23
8" VCP PERF. 10' OC
CELL NO. 4
HOFFMAN ENGINEERING, INC.
ENGINEERS — SURVEYORS — CONTRACTORS


08020202050003
Greenville
Greenville WWTF
Outfall 001
SW1/4 SE1/4 Sec 1 T28N R5E Wayne County
3707217/-09027042
ST. FRANCIS R.
2835
P
NATIONAL FOREST
Lone Hill
Greenville
Holiday Creek
Old Greenville Cem
Wight Cem
Quarry
Valley
BM 394
Flint Cem
Stephens Cem
ST FRANCIS RIVER
S T F R A N C O I S

ATTACHMENT E: NOTES ON ATTACHMENTS A, B, C, D

A: THIS SHOWS THE LOCATIONS OF THE TWO INFLUENT PIPES AND OF THE ONE OUTFALL (001).

B: THIS IS A COPY OF THE SYSTEM AS ORIGINALLY PLANNED. THE ACTUAL LAYOUT OF THE COMPLETED SYSTEM IS AS SHOWN IN ATTACHMENT A. A CHLORINATON AND DECHLORINATION SYSTEM WAS ADDED AT A LATER TIME.

C: LOCATION OF SYSTEM.

D: LIST OF VIOLATIONS.

NOTE: CHLORINATION LEVELS HAVE BEEN INCREASED TO DEAL WITH THE PROBLEM OF FECAL COLIFORM LIMITS SOMETIMES BEING EXCEEDED.

NOTE: THIS APPLICATION HAS BEEN COMPLETED BY MIKE MONTGOMERY (CURRENT OPERATOR). ON THE APPLICATION I HAVE LISTED MIKE JOHNSON AS THE OPERATOR BECAUSE I WILL NO LONGER BE THE OPERATOR FOR GREENVILLE AFTER NOVEMBER 15, 2011. MR. JOHNSON WILL BE THE OPERATOR BEGINNING NOVEMBER 16, 2011.