

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-0022381
Owner:	City of Mt. Vernon
Address:	319 E. Dallas, Mt. Vernon MO 65712
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Mt. Vernon Wastewater Treatment Facility
Facility Address:	North Highway 39, Mt. Vernon, MO 65712
Legal Description:	See Page 2
UTM Coordinates:	See Page 2
Receiving Stream:	See Page 2
First Classified Stream and ID:	See Page 2
USGS Basin & Sub-watershed No.:	See Page 2

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

FACILITY DESCRIPTION

See Page 3

This permit authorizes only wastewater and stormwater 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 621.250 RSMo, Section 640.013 RSMo and Section 644.051.6 of the Law.

January 1, 2020
Effective Date

September 1, 2020
Modification Date

Edward B. Galbraith
Edward B. Galbraith, Director, Division of Environmental Quality

March 31, 2023
Expiration Date

Chris Wieberg
Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION:

Outfall #001 – POTW – SIC #4952

The use or operation of this facility shall be by or under the supervision of a Certified “B” Operator.

Flow equalization basin/ Head-works step screen/ Grit Chamber/ Oxidation ditches/ 2 final clarifiers/ 2 Tertiary sand filters/ Ultraviolet disinfection/ Effluent concrete re-aeration steps/ 3 aerated sludge holding tanks/ Sludge is land applied/ facility does not have materials stored or conduct operations in a manner that would cause the discharge of pollutants via stormwater

Design population equivalent is 6,500.

Design flow is 1.35 million gallons per day.

Actual flow is 754,000 gallons per day.

Design sludge production is sludge production 230 dry tons/year.

Legal Description:	Sec. 25, T28N, R27W, Lawrence County
UTM Coordinates:	X=426354, Y=4106872
Receiving Stream:	Tributary to Williams Creek
First Classified Stream and ID:	Williams Creek (P) (3172) 303(d) list
USGS Basin & Sub-watershed No.:	(11070207-0105)

Outfall(s) #002 & 003 – Discharges from these outfalls are no longer authorized, and shall be subject to 40 CFR 122.41(m) and reported according to 40 CFR 122.41(m)(3)(i) & (ii).

Permitted Feature SM1 – Instream Monitoring

Instream monitoring location – Upstream – See Special Condition #21

Receiving Stream:	Tributary to Williams Creek
First Classified Stream and ID:	Williams Creek (P) (3172)
USGS Basin & Sub-watershed No.:	(11070207-0105)

Permitted Feature SM2 – Instream Monitoring

Instream monitoring location – Downstream – approximately 0.25 miles downstream of Outfall #001 to ensure samples are taken outside of the mixing zone of the receiving stream.

Legal Description:	Sec. 25, T28N, R27W, Lawrence County
UTM Coordinates:	X=425971, Y=4106898
Receiving Stream:	Tributary to Williams Creek
First Classified Stream and ID:	Williams Creek (P) (3172)
USGS Basin & Sub-watershed No.:	(11070207-0105)

OUTFALL #001	TABLE A FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
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 January 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
Limit Set: M						
Flow	MGD	*		*	once/weekday***	24 hr. total
<i>E. coli</i> (Note 1, Page 4)	#/100mL		630	126	once/week	grab
Ammonia as N (Apr 1 – Sep 30)	mg/L	5.4		1.5	once/month	grab
(Oct 1 – Mar 31)		12.1		2.6		
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	grab
Nitrate + Nitrite	mg/L	*		*	once/month	grab
Total Phosphorus	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY ; THE FIRST REPORT IS DUE FEBRUARY 28, 2020 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Limit Set: Q						
Biochemical Oxygen Demand ₅	mg/L		10	10	once/quarter****	composite**
Total Suspended Solids	mg/L		45	30	once/quarter****	composite**
Oil & Grease	mg/L	15		10	once/quarter****	grab
Cadmium, Total Recoverable	µg/L	2.7		1.1	once/quarter****	composite**
Iron, Total Recoverable	µg/L	*		*	once/quarter****	composite**
Nickel, Total Recoverable	µg/L	*		*	once/quarter****	composite**
Zinc, Total Recoverable	µg/L	*		*	once/quarter****	composite**
Copper, Total Recoverable	µg/L	29.5		12.3	once/quarter****	composite**
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2020 .						
EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units***	SU	6.0		9.0	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2020 .						
EFFLUENT PARAMETER(S)			UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand ₅ – Percent Removal (Note 2, Page 4)			%	85	once/quarter****	calculated
Total Suspended Solids – Percent Removal (Note 2, Page 4)			%	85	once/quarter****	calculated
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY ; THE FIRST REPORT IS DUE APRIL 28, 2020 .						

* Monitoring requirement only.

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

*** pH is measured in pH units and is not to be averaged.

**** See table on page 4 for quarterly sampling requirements.

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

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 – Influent sampling for BOD₅ and TSS is not required during periods when the facility does not discharge effluent during the reporting period. Samples are to be collected prior to any treatment process. Percent Removal is calculated by the following formula: $[(\text{Average Influent} - \text{Average Effluent}) / \text{Average Influent}] \times 100\% = \text{Percent Removal}$. Influent and effluent samples are to be taken during the same month. The Average Influent and Average Effluent values are to be calculated by adding the respective values together and dividing by the number of samples taken during the month. Influent samples are to be collected as a 24-hour composite sample, composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device

PERMITTED FEATURE INF	TABLE B. INFLUENT MONITORING REQUIREMENTS					
The monitoring requirements shall become effective on <u>January 1, 2020</u> and remain in effect until expiration of the permit. The influent wastewater shall be monitored by the permittee as specified below:						
PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: IM						
Total Phosphorus	mg/L	*		*	once/month	grab
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	grab
Ammonia as N	mg/L	*		*	once/month	grab
Nitrite + Nitrate	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>FEBRUARY 28, 2020</u> .						

OUTFALL #001	TABLE B. WHOLE EFFLUENT TOXICITY FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
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 January 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
Limit Set: WC						
Chronic Whole Effluent Toxicity (Note 3)	TU _c	*			once/permit cycle	composite**
WET TEST REPORTS SHALL BE SUBMITTED <u>ONCE PER PERMIT CYCLE</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2021</u> .						

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

Note 3 –See Special Condition #22 for additional requirements.

PERMITTED FEATURE <u>SM1</u>	TABLE C-1. INSTREAM MONITORING REQUIREMENTS					
The monitoring requirements shall become effective on <u>January 1, 2020</u> and remain in effect until expiration of the permit. The stream shall be monitored by the permittee as specified below:						
PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: UM						
Total Phosphorus	mg/L	*		*	once/month	grab
Ammonia as N	mg/L	*		*	once/month	grab
Total Kjeldahl Nitrogen	mg/L	*		*	once/month	grab
Nitrite + Nitrate	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>FEBRUARY 28, 2020</u> .						

- * Monitoring requirement only.
 ***** See table below for quarterly sampling

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

PERMITTED FEATURE <u>SM2</u>	TABLE C-2. INSTREAM MONITORING REQUIREMENTS					
The monitoring requirements shall become effective on <u>January 1, 2020</u> and remain in effect until expiration of the permit. The stream shall be monitored by the permittee as specified below:						
PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Limit Set: DQ						
Hardness, Total	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>APRIL 28, 2020</u> .						

* Monitoring requirement only.

D. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and August 1, 2019, and hereby incorporated as though fully set forth herein.

E. SPECIAL CONDITIONS

1. Electronic Discharge Monitoring Report (eDMR) Submission System.

Once the permittee is activated in the eDMR system:

- (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
- (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
 - (1) Collection System Maintenance Annual Reports;
 - (2) Schedule of Compliance Progress Reports;
 - (3) Sludge/Biosolids Annual Reports;
 - i. In addition to the annual Sludge/Biosolids report submitted to the Department, the permittee must submit Sludge/Biosolids Annual Reports electronically using EPA's NPDES Electronic Reporting Tool ("NeT") (<https://cdx.epa.gov/>).
 - (4) Municipal Separate Storm Sewer System (MS4) Program Reports;
 - (5) Pretreatment Program Reports; and
 - (6) Any additional report required by the permit excluding bypass reporting.

After such a system has been made available by the Department, required data shall be directly input into the system by the next report due date.
- (c) Other actions. The following shall be submitted electronically after such a system has been made available by the Department:
 - (1) General Permit Applications/Notices of Intent to discharge (NOIs);
 - (2) Notices of Termination (NOTs);
 - (3) No Exposure Certifications (NOEs);
 - (4) Bypass reporting, See Special Condition #10 for 24-hr. bypass reporting requirements.
- (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser: <https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx>.
- (e) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective.

E. SPECIAL CONDITIONS (Continued)

2. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
 - (a) To 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 CWA, 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.
 - (b) To incorporate an approved pretreatment program or modification thereto pursuant to 40 CFR 403.8(c) and 40 CFR 403.18(e), respectively.
3. All outfalls must be clearly marked in the field. This does not include instream monitoring locations.
4. Report as no-discharge when a discharge does not occur during the report period. For instream samples, report as “no flow” if no stream flow occurs during the report period.
5. Changes in existing pollutants or the addition of new pollutants to the treatment facility

The permittee must provide adequate notice to the Director of the following:

- (a) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
 - (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (c) For purposes of this paragraph, adequate notice shall include information on:
 - (1) the quality and quantity of effluent introduced into the POTW, and
 - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
6. Reporting of Non-Detects:
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
 - (b) The permittee shall not report a sample result as “Non-Detect” without also reporting the detection limit of the test. Reporting as “Non Detect” without also including the detection limit will be considered failure to report, which is a violation of this permit.
 - (c) The permittee shall provide the “Non-Detect” sample result using the less than sign and the minimum detection limit (e.g. <10).
 - (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
 - (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
 - (f) When calculating monthly averages, one-half of the method detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the “<MDL” shall be reported as indicated in item (c).
 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. To request a modification of the operational control testing requirements listed in 10 CSR 20-9, the permittee shall submit a permit modification application and fee to the Department requesting a deviation from the operational control monitoring requirements. If the request is approved, the Department will modify the permit.
 9. The permittee shall develop and implement a program for maintenance and repair of the collection system. The recommended guidance is the US EPA’s Guide for Evaluating Capacity, Management, Operation, And Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002) or the Departments’ CMOM Model located at <http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc>. For additional information regarding the Departments’ CMOM Model, see the CMOM Plan Model Guidance document at <http://dnr.mo.gov/pubs/pub2574.htm>.

E. SPECIAL CONDITIONS (Continued)

The permittee shall also submit a report via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:

- (a) A summary of the efforts to locate and eliminate sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.
 - (b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.
 - (c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.
10. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2. Bypasses are to be reported to the Southwest Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: <http://dnr.mo.gov/mogem/> or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.
 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. 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.
 13. An all-weather access road shall be provided to the treatment facility.
 14. 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.
 15. **Pretreatment:** The permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of 10 CSR 20-6.100. The approved pretreatment program is hereby incorporated by reference.
 - (a) The permittee shall submit to the Department via the Electronic Discharge Monitoring Report (eDMR) Submission System on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year. At a minimum, the report shall include the following:
 - (1) An updated list of the Permittee's Industrial Users, including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Permittee shall provide a brief explanation of each deletion. This list shall identify which Industrial Users are subject to categorical pretreatment Standards and specify which Standards are applicable to each Industrial User. The list shall indicate which Industrial Users are subject to local standards that are more stringent than the categorical Pretreatment Standards. The Permittee shall also list the Industrial Users that are subject only to local Requirements;
 - (2) A summary of the status of Industrial User compliance over the reporting period;
 - (3) A summary of compliance and enforcement activities (including inspections) conducted by the Permittee during the reporting period; and
 - (4) Any other relevant information requested by the Department.
 - (b) Pursuant to 40 CFR 122.44(j)(2)(ii), the permittee shall submit to the Department a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) by **July 1, 2020**. Please contact the Department's pretreatment coordinator for further guidance. Should revision of local limits be deemed necessary, it is recommended that revisions follow the US Environmental Protection Agency's guidance document *Local Limits Development Guidance*. EPA833-R04-002A. July 2004.

E. SPECIAL CONDITIONS (Continued)

16. Receiving Water Monitoring Conditions

- (a) Downstream receiving water samples should be taken at the location(s) specified on Page 2 of this permit. In the event that a safe, accessible location is not present at the location(s) listed, a suitable location can be negotiated with the Department. Samples should be taken at least four feet from the bank or from the middle of the stream (whichever is less) and 6-inches below the surface if possible.
- (b) When conducting in-stream monitoring, the permittee shall record observations that include: the time of day, weather conditions, unusual stream characteristics (e.g., septic conditions, algae growth, etc.), the stream segment (e.g., riffle, pool or run) from where the sample was collected. These observations shall be submitted with the sample results.
- (c) Samples shall not be collected from areas with especially turbulent flow, still water or from the stream bank, unless these conditions are representative of the stream reach or no other areas are available for sample collection. Sampling should not be made when significant precipitation has occurred recently. The sampling event should be terminated and rescheduled if any of the following conditions occur:
 - If turbidity in the stream increases notably; or
 - If rainfall over the past two weeks exceeds 2.5 inches or exceeds 1 inch in the last 24 hours
- (d) Always use the correct sampling technique and handling procedure specified for the parameter of interest. Please refer to the latest edition of Standard Methods for the Examination of Water and Wastewater for further discussion of proper sampling techniques. All analyses must be conducted in accordance with an approved EPA method. Meters shall be calibrated immediately (within 1 hour) prior to the sampling event.
- (e) Please contact the Department if you need additional instructions or assistance.

17. Chronic Whole Effluent Toxicity (WET) tests shall be conducted as follows:

- (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following species:
 - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
 - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
- (b) Chemical and physical analysis of the upstream control sample 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. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
- (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
- (d) The Allowable Effluent Concentration (AEC) is 100%, the dilution series is: 100%, 50%, 25%, 12.5%, and 6.25%.
- (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
- (f) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of chronic toxic units ($TU_c = 100/IC_{25}$) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.

**Missouri Department of Natural Resources
Factsheet Addendum
For Pretreatment Program Modification
#MO-0022381
Mt Vernon Wastewater Treatment Plant**

This addendum gives pertinent information regarding minor/simple modification(s) to the above listed operating permit for a public comment process.

An addendum is not an enforceable part of a Missouri State Operating Permit.

In accordance with the state Clean Water Law, Chapter 644, RSMo and the Federal Clean Water Act, the city of Mt. Vernon has an approved pretreatment program to meet the requirements of 40 CFR Part 403 and 10 CSR 20-6.100. The Department, as Approval Authority, reviewed the proposed program modifications and, by issuance of this permit, grants its approval as required by 40 CFR 403.18 and 10 CSR 20-6.100.

Part I – Proposed Pretreatment Program Modification

☒ - The Department is required to Public Notice

The public notice of the Department of Natural Resources' intent to approve the city of Mt. Vernon's pretreatment program modification has ended as of July 6, 2020. The pretreatment program is hereby approved pursuant to 40 CFR 403.18 (adopted in 10 CSR 20-6.100) and the city of Mt. Vernon should proceed to implement the pretreatment program requirements upon receipt of this letter.

The city is adopting the U.S. Environmental Protection Agency's (EPA's) 2005 amendments to the federal General Pretreatment Regulation at 40 CFR 403. Modifications to the sewer use ordinance (SUO) and enforcement response plan (ERP) that incorporate the revisions to a federal rule are non-substantial changes, as stated in the publication of the 2005 Streamlining Rule in the Federal Registry at 70 FR 60187 and in 40 CFR 403.18(b)(1). The pretreatment program changes were designated substantial modifications because the city's modification to its SUO included updated local limits after conducting a detailed local limit analysis that is part of this program modification. These changes could have a significant impact on the operation of the program, pursuant to 40 CFR 403.18(b)(7). See Appendix - Pretreatment Modification Request Letter.

Part II – Reason for the NPDES Permit Modification

In accordance with 40 CFR 403.18(e), "all modifications shall be incorporated into the POTW's NPDES permit upon approval. The permit will be modified to incorporate the approved modification in accordance with 40 CFR 122.63(g)." Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in § 122.62. Minor modifications include:

(g) Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.

Date of addendum: 08/13/2020

Completed by:

Todd Blanc,
State Industrial Pretreatment Coordinator
Water Protection Program
314-416-2064
todd.blanc@dnr.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0022381
MT. VERNON WWTP

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant 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 stormwater 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)(A)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 Major.

Part I – Facility Information

Facility Type: POTW - SIC #4952

Facility Description: Flow equalization basin/ Head-works step screen/ Grit Chamber/ 2 oxidation ditches/ 2 final clarifiers/ 2 Tertiary sand filters/ Ultraviolet disinfection/ Effluent concrete re-aeration steps/ 3 aerated sludge holding tanks/ Sludge is land applied.

Have any changes occurred at this facility or in the receiving water body that affects effluent limit derivation?

☒ - No.

Application Date: October 16, 2017

Expiration Date: March, 3, 2018

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	2.09	Secondary	Domestic
#002 and #003	Eliminated. Flows from these outfalls are currently routed to the headworks where it then receives at least primary and secondary treatment.		
SM1	Instream (Upstream) Monitoring Location		
SM2	Instream (Downstream) Monitoring Location		

Outfall #001 – Flow equalization basin / Head-works step screen /grit chamber / 2 oxidation ditches / 2 final clarifiers / 2 tertiary sand filters / ultraviolet disinfection / effluent concrete re-aeration steps / 3 aerated sludge holding tanks / sludge is land applied. The facility has the ability to manually circumvent a portion of the flow from the tertiary sand filters using a gate during high flow events where wastewater flows being received are greater than the sand filtration system can treat (4 MGD) and the storage lagoon is at capacity. This flow is then combined with flows from the tertiary sand filters prior to the ultraviolet disinfection unit.

Permitted Feature #SM1 & #SM2 – Instream monitoring at Permitted Feature #SM1 (upstream) is necessary in order to determine background concentrations for these parameters needed to complete calculations related to future effluent limit derivation where

necessary or appropriate. Instream monitoring at Permitted Feature #SM2 (downstream) for total hardness has been included in this permit so a site-specific hardness value may be used in the derivation of hardness dependent metals effluent limitations.

Facility Performance History:

This facility was last inspected on April 26, 2018. The inspection showed the following unsatisfactory features: the facility has not finalized the sewer use ordinance and enforcement response plan, the city has not issued a complete permit to each of their SIUs as required. The City failed to evaluate whether a slug control plan is needed for the three categorical SIUs are required. The city allowed T&C stainless Inc. to implement a toxic organic management plan in lieu of total toxic organic sampling.

Comments:

Changes in this permit include the removal of Acute Whole Effluent Toxicity Testing. See Part VI of the Fact Sheet for further information regarding the addition and removal of effluent parameters. Chronic Whole Effluent toxicity testing requirement has been retained from the previous permit as the due date for the test was set at January 28, 2021. As this due date is during this renewed permit cycle the requirement has been maintained as originally written.

As the previous permit was issued for a period of less than a full five years, all RPA analysis and effluent limitation calculations were retained with the exception of Total Recoverable Copper and Cadmium. During this renewal the facility has provided 11 data points of instream hardness the data set utilized in the previous permit renewal was utilized with an updated hardness of 220. The previously utilized copper data set was retained. This resulted in Total Recoverable Copper limits that are less stringent than the previous permits effluent limits. As a result, the previously established schedule of compliance has been removed.

Outfalls #002 & #003 are no longer authorized to discharge as it is a bypass. The Department has developed a Voluntary Compliance Agreement (VCA) for communities that believe they need time to eliminate this discharge. The VCA requires communities to develop and submit bypass elimination plans, to make progress, and to report on this progress. The terms of the VCA is for five (5) years, and is renewable for another five (5) years assuming that adequate progress is being made. In return, the State of Missouri will not initiate enforcement actions for the terms contained in the VCA. The permittee has entered into a VCA. The expected expiration/completion date of the VCA is August 15, 2017, unless the community requests and is granted an extension after the first five (5) year period.

The requirement to develop a Stormwater Pollution Prevention Plan was removed as the City has certified there are no materials or processes that are exposed to stormwater.

Part II – Operator Certification Requirements

☒ - This facility is required to have a certified operator.

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee 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:

Owned or operated by or for a

☒ - Municipalities

☐ - Federal agency

☐ - County

☐ - Public Sewer District

☐ - State agency

☐ - Private Sewer Company regulated by the Public Service Commission

☐ - Public Water Supply Districts

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200).

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

Operator's Name: Bert Bond

Certification Number: 11128

Certification Level: A

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.

Part III– Operational Control Testing Requirements

Missouri Clean Water Commission regulation 10 CSR 20-9.010 requires certain publically owned treatment works and privately owned facilities regulated by the Public Service Commission to conduct internal operational control monitoring to further ensure proper operation of the facility and to be a safeguard or early warning for potential plant upsets that could affect effluent quality. This requirement is only applicable if the publically owned treatment works and privately owned facilities regulated by the Public Service Commission has a Population Equivalent greater than two hundred (200).

10 CSR 20-9.010(3) allows the Department to modify the monitoring frequency required in the rule based upon the Department's judgement of monitoring needs for process control at the specified facility

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

Part IV – Receiving Stream Information

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Williams Creek	P	3172	AQL, IRR, LWW, SCR, WBCA, HHP	11070207-0105	0.0

*As per 10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.:

AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: **WWH** = Warm Water Habitat; **CDF** = Cold-water fishery (Current narrative use is cold-water habitat.); **CLF** = Cool-water fishery (Current narrative use is cool-water habitat); **EAH** = Ephemeral Aquatic Habitat; **MAH** = Modified Aquatic Habitat; **LAH** = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

WBC = Whole Body Contact recreation where the entire body is capable of being submerged;

WBC-A = Whole body contact recreation that supports swimming uses and has public access;

WBC-B = Whole body contact recreation that supports swimming;

SCR = Secondary Contact Recreation (like fishing, wading, and boating).

10 CSR 20-7.031(1)(C)3. to 7.:

HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish;

IRR = Irrigation for use on crops utilized for human or livestock consumption;

LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);

DWS = Drinking Water Supply;

IND = Industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)

WSA = Storm- and flood-water storage and attenuation; **WHP** = Habitat for resident and migratory wildlife species;

WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; **WHC** = Hydrologic cycle maintenance.

10 CSR 20-7.031(6): **GRW** = Groundwater

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM (C, E, P, P1)	LOW-FLOW VALUES (CFS)*		
	1Q10	7Q10	30Q10
Williams Creek (P)	0.1	0.1	1.0

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
0.025	0.025	0.25	0.0025	0.0025	N/A

RECEIVING STREAM MONITORING REQUIREMENTS:

Facilities with a design flow greater than 100,000 gallons per day are required to sample their effluent quarterly for total nitrogen and total phosphorus per 10 CSR 20-7.015(9)(D)7. Instream monitoring at Permitted Feature #SM1 (upstream) is necessary in order to determine background concentrations for these parameters needed to complete calculations related to future effluent limit derivation where necessary or appropriate. Instream monitoring at Permitted Feature #SM2 (downstream) for total hardness has been included in this permit so a site-specific hardness value may be used in the derivation of hardness dependent metals effluent limitations.

Receiving Water Body's Water Quality

A stream survey was conducted on September 4, 2014 at three locations in Williams Creek (P) (3172); approximately ten (10) yards upstream of the Mount Vernon WWTF entrance, at Outfall #001, and approximately thirty (30) yards downstream of the Mount Vernon WWTF. No impacts were observed during the survey.

This facility discharges to a 303(d) listed stream. Williams Creek (P) (3172) is listed on the 2016, originally 2010, Missouri 303(d) List for *Escherichia coli* (W). The 2016 Missouri 303(d) List identifies the source as Rural Nonpoint Sources. However, it has been determined by the permit writer that, due to the nature of domestic wastewater treatment facilities, this facility could cause or contribute to the impairment of Williams Creek (P) (3172). Once a TMDL is developed, the permit may be modified to include WLAs from the TMDL.

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.

☒ - The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(40)] & [10 CSR 20-7.031(1)(O)], or is an existing facility.

ANTI-BACKSLIDING:

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

☒ - Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

☒ - Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

- Acute Whole Effluent Toxicity testing has been removed. This is reflective of the facility previously passing the required Acute WET tests. As a result Acute WET testing has been removed. Effluent limits are still protective of water quality.
- Monitoring frequency for both influent and effluent BOD and TSS as well as ammonia and pH have been reduced to quarterly from monthly. This is reflective of the consistent quality of the effluent.
- The permittee has supplied the department with 11 sample results for hardness of the receiving water. As a result this hardness data was used in the effluent limit calculations and Reasonable Potential Analysis for Total Recoverable Copper, Total Recoverable Nickel, Total Recoverable Zinc, and Total Recoverable Cadmium. The default hardness of 162 mg/L has been replaced with 220 mg/L which reflects site specific data and the updated water quality standards which utilize the 50th percentile of hardness data instead of the previous water quality standard that used 25th percentile. This has resulted in less stringent effluent limits for Total Recoverable Copper, and Total Recoverable Cadmium. Also no reasonable potential to cause an excursion from water quality standards for Total Recoverable Nickel was determined. Total Recoverable Zinc still has no reasonable potential to exceed water quality standards. Effluent limits for Nickel have been replaced with monitoring requirements. The previous MDL of 0.71 µg/L and AML of 0.24 µg/L for Cadmium has been replaced with 2.7 µg/L and 1.1 µg/L respectively.

The previous MDL of 22.07 µg/L and 8.12 µg/L for Copper have been replaced with 29.5 µg/L and 12.3 µg/L respectively. Effluent limits are still protective of water quality.

- **Stormwater Pollution Prevention Plan (SWPPP).** The department received a No-Exposure Certification form from the City on September 30, 2019, certifying that there are no materials, products or processes at the WWTF that are exposed to or may be potentially discharged via stormwater runoff. At this time, the requirement for the City to develop a SWPPP is not required but will be evaluated again at renewal.

☒ - The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).

- **General Criteria.** The previous permit contained a special condition which described a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4). In order to comply with 40 CFR 122.44(d)(1), the permit writer has conducted reasonable potential determinations for each general criterion and established numeric effluent limitations where reasonable potential exists. While the removal of the previous permit special condition creates the appearance of backsliding, since this permit establishes numeric limitations where reasonable potential to cause or contribute to an excursion of the general criteria exists the permit maintains sufficient effluent limitations and monitoring requirements in order to protect water quality, this permit is equally protective as compared to the previous permit. Therefore, given this new information, and the fact that the previous permit special condition was not consistent with 40 CFR 122.44(d)(1), an error occurred in the establishment of the general criteria as a special condition of the previous permit. Please see Part VI – Effluent Limits Determination for more information regarding the reasonable potential determinations for each general criterion related to this facility.

ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See <http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>

☒ - 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.

For stormwater discharges, the stormwater BMP chosen for the facility, through the antidegradation analysis performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

☒ - The facility must review and maintain stormwater BMPs as appropriate.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(2)(C)], ...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.

☒ - Permittee is authorized to land apply biosolids in accordance with Standard Conditions III.

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.

☒ - The facility is not currently under Water Protection Program enforcement action.

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are for optional use and can be found on the Department's website at the following locations:

Operational Monitoring Lagoon: <http://dnr.mo.gov/forms/780-2801-f.pdf>

Operational Monitoring Mechanical: <http://dnr.mo.gov/forms/780-2800-f.pdf>

I&I Report: <http://dnr.mo.gov/forms/780-2690-f.pdf>

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

☒ - The permittee/facility is currently using the eDMR data reporting system.

NUMERIC LAKE NUTRIENT CRITERIA

☒ - This facility does not discharge into a lake watershed where numeric lake nutrient criteria are applicable.

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)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

☒ - This permittee has an approved pretreatment program in accordance with the requirements of [40 CFR Part 403] and [10 CSR 20-6.100] and is expected to implement and enforce its approved 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)(1)(iii)] if the permit writer determines that any given 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.

☒ - A RPA was not conducted for this facility. Due to the previous permit being a short term permit. All RPA's and effluent limit calculations were retained.

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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

☒ - Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):

Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(12)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous calendar year that contains a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

☒ - 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) or the Departments' CMOM Model located at <http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc>. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at <http://dnr.mo.gov/pubs/pub2574.htm>. The CMOM identifies some of the criteria used 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):

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes 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. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit that was not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

In order to provide guidance to Permit Writers in developing SOC's, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOC's. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

☒ - This permit does not contain a schedule of compliance.

SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:

In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee's Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See <http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm>.

☒ - The permittee does not have a Department approved Sewer Extension Authority Supervised Program.

STORMWATER 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 stormwater 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.

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of stormwater discharges. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (<http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf>).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs that are reasonable and cost effective. The AA evaluation should include practices that are designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why “no discharge” or “no exposure” is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), Section II.B.

If parameter-specific numeric exceedances continue to occur and the permittee feels there are no practicable or cost-effective BMPs which will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the permittee can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the Department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request shall be submitted in the form of an operating permit modification; the application is found at: <http://dnr.mo.gov/forms/index.html>.

☒ - 10 CSR 20-6.200 and 40 CFR 122.26 includes treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that is located within the confines of the facility, with a design flow of 1.0 mgd or more, or are required to have an approved pretreatment program under 40 CFR part 403, as an industrial activity in which permit coverage is required.

In lieu of requiring sampling in the site-specific permit, the facility is required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP). A facility can apply for conditional exclusion for “no exposure” of industrial activities and materials to stormwater by submitting a permit modification via Form B2 (<http://dnr.mo.gov/forms/780-1805-f.pdf>) appropriate application filing fees and a completed No Exposure Certification for Exclusion from NPDES Stormwater Permitting under Missouri Clean Water Law (<https://dnr.mo.gov/forms/780-2828-f.pdf>) to the Department’s Water Protection Program, Operating Permits Section. Upon approval of the No Exposure Certification, the permit will be modified and the Special Condition to develop and implement a SWPPP will be removed. This information will be reevaluated at the time of renewal.

☒ - The department received a No-Exposure Certification form from the City on September 30, 2019, certifying that there are no materials, products or processes at the WWTF that are exposed to or may be potentially discharged via stormwater runoff. At this time, the requirement for the City to develop a SWPPP is not required but will be evaluated again at renewal.

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.

☒ - 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(86)], 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.

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

$$C_e = \frac{(Q_e + Q_s)C - (Q_s \times C_s)}{(Q_e)} \quad (\text{EPA/505/2-90-001, Section 4.5.5})$$

Where C = downstream concentration C_e = effluent concentration
 C_s = upstream concentration Q_e = effluent flow
 Q_s = upstream 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.

☒ - A WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARDS:

Per [10 CSR 20-7.031(4)], 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:

☒ - The permittee is required to conduct WET test for this facility.

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.

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(4)(D),(F),(G),(J)2.A & B are being met. Under [10 CSR 20-6.010(8)(B)], 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 that exceeds its design population equivalent (PE) for BOD₅ whether or not its design flow is being exceeded.
- ☐ Facility (whether primarily domestic or 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 NH₃)
- ☒ Facility is a municipality with a Design Flow \geq 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 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 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, 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.

☒ - Bypasses occur or have occurred at this facility.

☒ - Outfall #002 & #003 is no longer authorized to discharge as it is a Bypass. The Department has developed a Voluntary Compliance Agreement (VCA) for communities that believe they need time to eliminate this discharge. The VCA requires communities to develop and submit bypass elimination plans, to make progress, and to report on this progress. The terms of the VCA is for five (5) years, and is renewable for another five (5) years assuming that adequate progress is being made. In return, the State of Missouri will not initiate enforcement actions for the terms contained in the VCA. The permittee has entered into a VCA.

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.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

☒ - This facility discharges to a 303(d) listed stream.

- Williams Creek (P) (3172) is listed on the 2016, originally 2010, Missouri 303(d) List for *Escherichia coli* (W). The 2016 Missouri 303(d) List identifies the source as Rural Nonpoint Sources. However, it has been determined by the permit writer that, due to the nature of domestic wastewater treatment facilities, this facility could cause or contribute to the impairment of Williams Creek (P) (3172). Once a TMDL is developed, the permit may be modified to include WLAs from the TMDL.

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.

- | | |
|---|---|
| <input type="checkbox"/> Missouri or Mississippi River [10 CSR 20-7.015(2)] | <input type="checkbox"/> Special Streams [10 CSR 20-7.015(6)] |
| <input type="checkbox"/> Lakes or Reservoirs [10 CSR 20-7.015(3)] | <input type="checkbox"/> Subsurface Waters [10 CSR 20-7.015(7)] |
| <input type="checkbox"/> Losing Streams [10 CSR 20-7.015(4)] | <input checked="" type="checkbox"/> All Other Waters [10 CSR 20-7.015(8)] |
| <input type="checkbox"/> Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)] | |

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	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Flow	MGD	1	*		*	*/	1/week-days	monthly	T
BOD ₅	mg/L	1		10	10	10/10	1/quarter	quarterly	C
TSS	mg/L	1		45	30	45/30	1/quarter	quarterly	C
<i>Escherichia coli</i> **	#/100mL	1, 3		630	126	630/126	1/week	monthly	G
Ammonia as N (Apr 1 – Sep 30)	mg/L	2, 3	5.4		1.5	5.4/1.5	1/quarter	quarterly	G
Ammonia as N (Oct 1 – Mar 31)	mg/L	2, 3	12.1		2.6	12.1/2.6	1/quarter	quarterly	G
Oil & Grease	mg/L	1, 3	15		10	15/10	1/quarter	quarterly	G
Total Kjeldhal Nitrogen	mg/L	1	*		*	*/	1/month	monthly	G
Nitrite + Nitrate			*		*	*/	1/month	monthly	G
Total Phosphorus	mg/L	1	*		*	*/	1/month	monthly	G
Cadmium, Total Recoverable	µg/L	1,3	2.7		1.1	0.71/ 0.24	1/quarter	quarterly	C
Iron, Total Recoverable	µg/L	7	*		*	*/	1/quarter	quarterly	C
Nickel, Total Recoverable	µg/L	1,3	*		*	130.46/ 65.05	1/quarter	quarterly	C
Zinc, Total Recoverable	µg/L	1,3	*		*	*/	1/quarter	quarterly	C
Copper, Total Recoverable	µg/L	1,3	29.5		12.3	22.07/ 8.12	1/quarter	quarterly	C
Chronic Whole Effluent Toxicity	TUc	1,9	*		*	*/	1/quarter	quarterly	C
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
pH	SU	1	6.0		9.0	6.0/9.0	1/quarter	quarterly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg Min	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
BOD ₅ Percent Removal	%	1			85	85	1/quarter	quarterly	M
TSS Percent Removal	%	1			85	85	1/quarter	quarterly	M

* - Monitoring requirement only.

** - #/100mL; the Monthly Average for *E. coli* is a geometric mean.

*** - Parameter not previously established in previous state operating permit.

**** - C = 24-hour composite

G = Grab

T = 24-hr. total

E = 24-hr. estimate

M = Measured/calculated

Basis for Limitations Codes:

- | | | |
|--|-----------------------------------|----------------------------------|
| 1. State or Federal Regulation/Law | 5. Antidegradation Policy | 9. WET Test Policy |
| 2. Water Quality Standard (includes RPA) | 6. Water Quality Model | 10. Multiple Discharger Variance |
| 3. Water Quality Based Effluent Limits | 7. Best Professional Judgment | |
| 4. Antidegradation Review | 8. TMDL or Permit in lieu of TMDL | |

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 (BOD₅).**
☒ - This facility attains secondary treatment through an extended aeration oxidation ditch; however, the previous permit included final effluent limitations of 10 mg/L as a weekly average and 10 mg/L as a monthly average. Due to the fact that this facility has demonstrated the ability to meet the final effluent limitations in the previous permit, final effluent limitations of 10 mg/L as a weekly average and monthly average have been retained in this permit.
- **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 **Effluent Limits Determination.**
- **Escherichia coli (E. coli).** Monthly average of 126 per 100 mL as a geometric mean and Weekly Average of 630 per 100 mL as a geometric mean 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(5)(C). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.
- **Total Ammonia Nitrogen.** Reasonable potential analysis and effluent limitations were retained from the previous permit due to the permit being issued for period of less than a full five year permit cycle. As a result the summer daily maximum of 5.4 mg/L and monthly average of 1.5 mg/L and winter daily maximum of 12.1 mg/L and monthly average of 2.6 mg/L are retained.
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Phosphorus and Total Nitrogen (Speciated).** Effluent monitoring for Total Phosphorus, Total Kjeldahl Nitrogen and Nitrite + Nitrate required per 10 CSR 20-7.015(9)(D)8.
- **pH.** -6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the assimilative capacity of the receiving stream.
- **Biochemical Oxygen Demand (BOD₅) Percent Removal.** In accordance with 40 CFR Part 133, 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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for BOD₅.
- **Total Suspended Solids (TSS) Percent Removal.** In accordance with 40 CFR Part 133, 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 (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for TSS.

Metals. Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the “Technical Support Document for Water Quality-based Toxic Controls” (EPA/505/2-90-001) and “The Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit from a Dissolved Criterion” (EPA 823-B-96-007). General warm-water fishery criteria apply and a water hardness of 202.5 mg/L is used in the conversion below.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals and total suspended solids are provided to the Department, partitioning evaluations may be considered and site-specific translators developed.

METAL	CONVERSION FACTORS	
	ACUTE	CHRONIC
Cadmium	0.911	0.876
Iron	N/A	N/A
Nickel	0.998	0.997

METAL	CONVERSION FACTORS	
	ACUTE	CHRONIC
Copper	0.960	0.960
Zinc	0.978	0.986

Conversion factors for Cd are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 220 mg/L.

- **Cadmium, Total Recoverable.** The previous permit included final effluent limitations of 0.71 µg/L as a daily maximum and 0.24 µg/L as a monthly average, which are more stringent than those established in this permit. The previous permit utilized a total hardness value of 162 mg/L when deriving final effluent limitations, whereas this permit has utilized a total hardness value of 202.5 mg/L which was determined through 11 samples collected downstream of the outfall in the receiving stream from 2016 to 2018. Following a Reasonable Potential Analysis (RPA) and the derivation of final effluent limitations, final effluent limitations of 2.7 µg/L as a daily maximum and 1.1 µg/L as a monthly average have been included in this permit.

Protection of Aquatic Life Chronic Criteria = 1.3 µg/L, Acute Criteria = 10.25 µg/L.

$$\begin{aligned}\text{Chronic} &= 1.3/0.879 = 1.5 \text{ } \mu\text{g/L} \\ \text{Acute} &= 10.25/0.914 = 11.21 \text{ } \mu\text{g/L}\end{aligned}$$

$$\begin{aligned}\text{Chronic WLA: } C_e &= ((2.09 + 0.025)0.45 - (0.025 * 0.0))/2.09 \\ C_e &= 1.5 \text{ } \mu\text{g/L}\end{aligned}$$

$$\begin{aligned}\text{Acute WLA: } C_e &= ((2.09 + 0.0025)10.33 - (0.0025 * 0.0))/2.09 \\ C_e &= 11.27 \text{ } \mu\text{g/L}\end{aligned}$$

$$\begin{aligned}\text{LTA}_c &= 1.5 (0.405) = .608 \text{ } \mu\text{g/L} & [\text{CV} = 0.894, 99^{\text{th}} \text{ Percentile}] \\ \text{LTA}_a &= 11.27 (0.225) = 2.54 \text{ } \mu\text{g/L} & [\text{CV} = 0.894, 99^{\text{th}} \text{ Percentile}]\end{aligned}$$

Use most protective number of LTA_c or LTA_a.

$$\begin{aligned}\text{MDL} &= 0.608 (4.43) = 2.7 \text{ } \mu\text{g/L} & [\text{CV} = 0.894, 99^{\text{th}} \text{ Percentile}] \\ \text{AML} &= 0.608 (1.84) = 1.1 \text{ } \mu\text{g/L} & [\text{CV} = 0.894, 95^{\text{th}} \text{ Percentile, } n = 4]\end{aligned}$$

- **Iron, Total Recoverable.** Monitoring only requirements have been included in this permit due to the fact that there are metal manufactures connected to the wastewater treatment facility which have the potential to contribute iron residuals to the influent. Data collected will be used upon the next renewal to conduct a reasonable potential analysis to determine if an effluent limitation is necessary in order to protect water quality standards. Data was not evaluated during this renewal as the previous permit was issued for only a year. This one year period of data collection for Iron does not provide an adequate number of samples to determine reasonable potential at this time.
- **Nickel, Total Recoverable.** Following a Reasonable Potential Analysis (RPA) using updated site specific hardness data, it was determined that the facility does not currently have a reasonable potential to violate water quality standards. Therefore, this permit includes monitoring only requirements for total recoverable Nickel in order to continue to collect effluent data. This data will be utilized to verify the determination in this permit. Please see **Appendix – RPA Results** for more information.
- **Zinc, Total Recoverable.** Following a Reasonable Potential Analysis (RPA), it was determined that the facility does not currently have a reasonable potential to violate water quality standards. Therefore, this permit includes monitoring only requirements for total recoverable zinc in order to continue to collect effluent data. This data will be utilized to verify the determination in this permit. Please see **APPENDIX – RPA RESULTS** for more information.
- **Copper, Total Recoverable.** The previous permit included final effluent limitations of 22.07 µg/L as a daily maximum and 8.12 µg/L as a monthly average, which includes a more stringent daily maximum effluent limitation than those established in this permit. The previous permit utilized a total hardness value of 162 mg/L when deriving final effluent limitations, whereas total hardness value of 220 mg/L which was determined through 11 samples collected downstream of the outfall in the receiving stream from 2016 to 2018. Following a Reasonable Potential Analysis (RPA) and the derivation of final effluent limitations, a daily maximum final effluent limitation of 29.5 µg/L and a monthly average final effluent limitation of 12.3 µg/L have been included.

Protection of Aquatic Life Chronic Criteria = 17.6 µg/L, Acute Criteria = 28.24 µg/L.

$$\begin{aligned}\text{Chronic} &= 17.567/0.960 = 18.299 \text{ µg/L} \\ \text{Acute} &= 28.24/0.960 = 29.417 \text{ µg/L}\end{aligned}$$

$$\begin{aligned}\text{Chronic WLA: } C_e &= ((2.09 + 0.025)18.299 - (0.025 * 0.0))/2.09 \\ C_e &= 18.518 \text{ µg/L}\end{aligned}$$

$$\begin{aligned}\text{Acute WLA: } C_e &= ((2.09 + 0.0025)29.417 - (0.0025 * 0.0))/2.09 \\ C_e &= 29.452 \text{ µg/L}\end{aligned}$$

$$\begin{aligned}\text{LTA}_c &= 18.518 (0.408) = 7.7 \text{ µg/L} & [\text{CV} = 0.886, 99^{\text{th}} \text{ Percentile}] \\ \text{LTA}_a &= 29.452 (0.227) = 6.7 \text{ µg/L} & [\text{CV} = 0.886, 99^{\text{th}} \text{ Percentile}]\end{aligned}$$

Use most protective number of LTA_c or LTA_a .

$$\begin{aligned}\text{MDL} &= 6.7 (4.39) = 29.5 \text{ µg/L} & [\text{CV} = 0.886, 99^{\text{th}} \text{ Percentile}] \\ \text{AML} &= 6.7 (1.83) = 12.3 \text{ µg/L} & [\text{CV} = 0.886, 95^{\text{th}} \text{ Percentile, } n = 4]\end{aligned}$$

Whole Effluent Toxicity

- **Chronic Whole Effluent Toxicity.** Monitoring requirement only. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards. The permit writer has determined that this facility has reasonable potential to cause toxicity in the receiving stream. The permit writer has determined that this facility has reasonable potential to cause toxicity in the receiving stream. Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to Waters of the State lacking designated uses, Class C, Class P (with default Mixing Considerations), or Lakes [10 CSR 20-7.031(5)(A)4.B.(IV)(b)] are 100%, 50%, 25%, 12.5%, & 6.25%.
- **Parameters Removed.** Acute Whole Effluent Toxicity has been removed from this permit which is reflective of the facilities passing of previously required Acute WET tests.

Sampling Frequency Justification:

Sampling and Reporting Frequency was retained from previous permit. Monitoring frequencies for BOD, TSS, Ammonia, pH and Influent BOD and TSS has been reduced to quarterly. This is due to the consistency of the quality of the effluent. Sampling for *E. coli* is set at weekly per 10 CSR 20-7.015(9)(D)6.C.

WET Test Sampling Frequency Justification. 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.

Chronic Whole Effluent Toxicity

☒ -No less than **ONCE/PERMIT CYCLE:**

☒ -POTW facilities with a design flow of greater than 1.0 million gallons per day, but less than 10 million gallons per day, shall conduct and submit to the Department a chronic WET test no less than once per five years.

Sampling Type Justification:

As per 10 CSR 20-7.015, BOD₅, TSS, and WET test samples collected for mechanical plants shall be a 24 hour composite sample. Grab samples, however, must be collected for pH, Ammonia as N, *E. coli* and, Oil & Grease.. This is due to the holding time restriction for *E. coli*, the volatility of Ammonia and the fact that pH cannot be preserved and must be sampled in the field. As Ammonia and Oil & Grease samples must be immediately preserved, these samples are to be collected as a grab. Also, the facility has requested during the previous renewal the permit reflect 24 hour composite samples for total phosphorus and all total recoverable metals.

PERMITTED FEATURE SM1 – INSTREAM MONITORING (UPSTREAM)

The monitoring requirements established in the below Monitoring Requirements 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 the monitoring requirements listed in this table..

MONITORING REQUIREMENTS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Total Kjeldhal Nitrogen	mg/L	1	*		*	***	monthly	monthly	G
Nitrite + Nitrate	mg/L	1	*		*	***	monthly	monthly	G
Ammonia as N	mg/L	1	*		*	***	monthly	monthly	G
Total Phosphorus	mg/L	1	*		*	***	monthly	monthly	G

* - Monitoring requirement only.

*** - Parameter not previously established in previous state operating permit.

**** - C = 24-hour composite

G = Grab

M = Measured /calculated

Basis for Limitations Codes:

- | | | |
|--|---------------------------|-----------------------------------|
| 1. State or Federal Regulation/Law | 4. Antidegradation Review | 7. Best Professional Judgment |
| 2. Water Quality Standard (includes RPA) | 5. Antidegradation Policy | 8. TMDL or Permit in lieu of TMDL |
| 3. Water Quality Based Effluent Limits | 6. Water Quality Model | 9. WET Test Policy |

PERMITTED FEATURE SM1 – DERIVATION AND DISCUSSION OF MONITORING REQUIREMENTS:

- **Total Phosphorus, Total Kjeldahl Nitrogen, Nitrite + Nitrate, and Ammonia.** . Facilities with a design flow greater than or equal to one million gallons per day are required to sample their effluent monthly for Total Phosphorus and Total Kjeldahl Nitrogen, Nitrite + Nitrate and Ammonia per 10 CSR 20-7.015(9)(D)8. Upstream monitoring for these parameters is necessary to determine background stream concentrations in order to complete calculations that determine instream nutrient loading.

Sampling Frequency Justification:

The sampling and reporting frequency for Total Phosphorus and Total Nitrogen has been established to match the required sampling frequency of these parameters in the effluent.

Sampling Type Justification

Grab samples have determined to be sufficient given an assumed consistency of water quality in the receiving stream at normal flows.

PERMITTED FEATURE SM2 – INSTREAM MONITORING (DOWNSTREAM)

The monitoring requirements established in the below Monitoring Requirements 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 the monitoring requirements listed in this table.

MONITORING REQUIREMENTS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ****
Total Hardness	mg/L	1, 3	*		*	***	quarterly	quarterly	G

* - Monitoring requirement only.

*** - Parameter not previously established in previous state operating permit.

**** - C = 24-hour composite

G = Grab

M = Measured /calculated

Basis for Limitations Codes:

- | | | |
|--|---------------------------|-----------------------------------|
| 1. State or Federal Regulation/Law | 4. Antidegradation Review | 7. Best Professional Judgment |
| 2. Water Quality Standard (includes RPA) | 5. Antidegradation Policy | 8. TMDL or Permit in lieu of TMDL |
| 3. Water Quality Based Effluent Limits | 6. Water Quality Model | 9. WET Test Policy |

PERMITTED FEATURE SM2 – DERIVATION AND DISCUSSION OF MONITORING REQUIREMENTS:

- **Total Hardness.** Monitoring only requirement as the metals parameters contained in the permit are hardness based. This data will be used in the next permit renewal.

Sampling Frequency Justification:

The sampling and reporting frequency for Total Hardness has been established to match the required sampling frequency of the metals parameters in the effluent.

Sampling Type Justification:

Grab samples have determined to be sufficient given an assumed consistency of water quality in the receiving stream at normal flows.

OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit states that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule or regulation promulgated by the commission.

- (A) 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. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the recent Report of Compliance Inspection for the inspection conducted on May 24 2018, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, this facility utilizes secondary treatment technology and is currently in compliance with effluent limitations that are more stringent than treatment technology based effluent limits established in 40 CFR 133 and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.
- (B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.
- (D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are

either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.

- (E) Waters shall provide for the attainment and maintenance of water quality standards downstream including waters of another state. Please see (D) above as justification is the same.
- (F) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.
- (G) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.
- (H) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.
- (I) 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. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

Part VII – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

☒ - 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.

Cost Analysis for Compliance - 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.

The following table summarizes the results of the cost analysis. See **Appendix – Cost Analysis for Compliance** for detailed information.

Summary Table. Cost Analysis for Compliance Summary for the City of Mount Vernon

New Permit Requirements			
Monthly sampling for: Total Phosphorus (effluent, influent, and instream) Total Kjeldhal Nitrogen (effluent, influent, and instream) Nitrate (effluent, influent and instream) Nitrite (effluent, influent and instream) Ammonia (instream and influent)			
Estimated Annual Cost	Annual Median Household Income (MHI)	Estimated Monthly User Rate	User Rate as a Percent of MHI
\$3,972	\$32,873	\$38.90	1.42%

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.

WATER QUALITY STANDARD REVISION:

In accordance with section 644.058, RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

☒ - This operating permit contains a permit requirement for instream monitoring for speciated nitrogen, and total phosphorus as well as new speciated ammonia sampling which water quality criteria has been modified by twenty-five percent or more since the issuance of the previous permit. While this permit does not establish final effluent limitations for nutrients, the increased monitoring of nutrients is the primary step in the implementation of the new numeric lake nutrient criteria. Nutrient criteria for lakes are environmentally necessary to ensure the beneficial uses of lakes (water supply, recreation in and on the water, and human health) are guarded from the effects of eutrophication and subsequent algal blooms.

The change and approval of utilizing the 50th percentile of hardness data instead of the 25th percentile to calculate hardness dependent metals by the EPA is environmentally necessary to ensure the criteria are reflective of the most current science available while protecting the water quality standards of the receiving stream without placing needless and overly burdensome requirements on regulated entities.

PERMIT SYNCHRONIZATION:

The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. With permit synchronization, this permit will expire in the 1st Quarter of calendar year 2023.

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 October 19, 2018 to November 18, 2018. Comments were received during this period providing an additional hardness data resulting in an adjustment to both the Total Recoverable Copper limits as well as the Total Recoverable Cadmium limits. Also sampling requirements were updated for nutrient monitoring requirements which includes influent, instream, and effluent sampling for Ammonia as N, Nitrate + Nitrite, Total Kjeldhal Nitrogen, and Total Phosphorus. Due to these changes a second public notice will occur. This draft public notice is tentatively scheduled for March 2019.
- ✓ This permit was placed on public notice for a second time for a period from March 15, 2019 to April 15, 2019. The permit was revised to use the 50th percentile of hardness data which resulted in cadmium effluent limits of 2.7 µg/L as a daily max and 1.1 µg/L as a monthly average. The resulting copper limits are 29.5 µg/L as a daily max and 12.3 µg/L as a monthly average. Due to the changes in state water quality standards, the subsequent derivation of effluent limitations, and implementation of the revised Standard Conditions Part III, a third public notice was held between October 11, 2019 and November 12, 2019. No comments were received.

DATE OF FACT SHEET: 8/24/2018

COMPLETED BY:

SHAWN MASSEY, ENVIRONMENTAL SPECIALIST

MISSOURI DEPARTMENT OF NATURAL RESOURCES

WATER PROTECTION PROGRAM

OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT

(573) 751-1399

Shawn.massey@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.	1
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	1
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	3
Grit removal	3	3
Plant pumping of main flow (lift station at the headworks)	3	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)	----	19

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	2
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	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	15
Stabilization ponds without aeration	5	
Aerated lagoon	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	
Dechlorination	2	
On-site generation of disinfectant (except UV light)	5	
UV light	4	4
SOLIDS HANDLING - SLUDGE		
Solids Handling Thickening	5	
Anaerobic digestion	10	
Aerobic digestion	6	6
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	6
Total from page TWO (2)	----	43
Total from page ONE (1)	---	19
Grand Total	---	62

- ☐ - 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
Cadmium, Total Recoverable	11.25	3.70	1.14	3.66	31.00	2/0.005	1.64	1.85	YES
Copper, Total Recoverable	26.4	94.41	16.6	93.41	31.00	38/0.25	1.23	2.49	YES
Nickel, Total Recoverable	830.5	82.81	92.3	81.93	31.00	43/0.25	0.60	1.93	NO
Zinc, Total Recoverable	212.6	160.44	210.8	158.74	31.00	87.3/2.5	0.53	1.84	NO

**APPENDIX – AFFORDABILITY:
Missouri Department of Natural Resources
Water Protection Program
Cost Analysis for Compliance
(In accordance with RSMo 644.145)**

**Mt. Vernon WWTP, Permit Renewal
City of Mt. Vernon
Missouri State Operating Permit #MO-0022381**

Section 644.145 RSMo requires the Department of Natural Resources (Department) 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.” This cost analysis does not dictate how the permittee will comply with new permit requirements.

New Permit Requirements

The permit also requires compliance with new monthly monitoring requirements for total kjeldhal nitrogen, ammonia as N, and Nitrate + Nitrite and total phosphorus on both the effluent and in stream above the outfall.

Connections

The number of connections was reported by the permittee on the Financial Questionnaire.

Connection Type	Number
Residential	1,541
Commercial	267
Industrial	16
Total	1,824

Data Collection for this Analysis

This cost analysis is based on data available to the Department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the Department with current information about the City’s financial and socioeconomic situation. The financial questionnaire available to permittees on the Department’s website (<http://dnr.mo.gov/forms/780-2511-f.pdf>) is a required attachment to the permit renewal application. If the financial questionnaire is not submitted with the renewal application, the Department sends a request to complete the form with the welcome correspondence. If certain data was not provided by the permittee to the Department and the data is not obtainable through readily available sources, this analysis will state that the information is “unknown”.

Eight Criteria of 644.145 RSMo

The Department must consider the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with new permit requirements.

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

Criterion 1 Table. Current Financial Information for the City of Mt. Vernon	
Current Monthly User Rates per 5,000 gallons*	\$38.72
Median Household Income (MHI) ¹	\$32,873
Current Annual Operating Costs (excludes depreciation)	\$419,848

*User Rates were reported by the permittee on the Financial Questionnaire

(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;

The following tables outline the estimated costs of the new permit requirements:

Criterion 2A Table. Estimated Cost Breakdown of New Permit Requirements			
New Requirement	Frequency	Estimated Cost Per Sample	Estimated Annual Cost
Total Phosphorus sampling (Effluent, Influent, and Instream)	Monthly	\$24	\$864
Total Kjeldhal Nitrogen sampling (Effluent, Influent, and Instream)	Monthly	\$33	\$1188
Nitrate sampling (Effluent, Influent, and Instream)	Monthly	\$20	\$720
Nitrite sampling (Effluent, Influent, and Instream)	Monthly	\$20	\$720
Ammonia as N sampling (instream and influent)	Monthly	\$20	\$480
Total Estimated Annual Cost of New Permit Requirements			\$3,972

Criterion 2B Table. Estimated Costs for New Permit Requirements		
(1)	Estimated Annual Cost	\$3972
(2)	Estimated Monthly User Cost for New Requirements ²	\$0.18
	Estimated Monthly User Cost for New Requirements as a Percent of MHI ³	0.007%
(3)	Total Monthly User Cost*	\$38.90
	Total Monthly User Cost as a Percent of MHI ⁴	1.420%

* Current User Rate + Estimated Monthly Costs of New Sampling Requirements

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

This analysis is being conducted based on new requirements in the permit, which will not require the addition of new control technologies at the facility. However, the new sampling requirements are being established in order to provide data regarding the health of the receiving stream's aquatic life and to ensure that the existing permit limits are providing adequate protection of aquatic life. Improved wastewater provides benefits such as avoided health costs due to water-related illness, enhanced environmental ecosystem quality, and improved natural resources. The preservation of natural resources has been proven to increase the economic value and sustainability of the surrounding communities. Maintaining Missouri's water quality standards fulfills the goal of **restoring** and **maintaining** the chemical, physical, and biological integrity of **the receiving stream**; and, where attainable, it achieves a level of water quality that provides for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water.

(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:

The community reported that their outstanding debt for their current wastewater collection and treatment systems is \$5,111,162. The community reported that each user pays \$38.72 monthly, of which, \$26.58 is used toward payments on the current outstanding debt.

(5) 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.
- (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.

The following table characterizes the current overall socioeconomic condition of the community as compared to the overall socioeconomic condition of Missouri. The following information was compiled using the latest U.S. Census data.

Criterion 5 Table. Socioeconomic Data ^{1, 5-9} for the City of Mt. Vernon

No.	Administrative Unit	Mount Vernon City	Missouri State
1	Population (2016)	4,525	6,059,651
2	Percent Change in Population (2000-2016)	12.6%	8.3%
3	2016 Median Household Income (in 2017 Dollars)	\$32,873	\$50,417
4	Percent Change in Median Household Income (2000-2016)	-18.7%	-5.9%
5	Median Age (2016)	46.3	38.3
6	Change in Median Age in Years (2000-2016)	5.7	2.2
7	Unemployment Rate (2016)	6.6%	6.6%
8	Percent of Population Below Poverty Level (2016)	14.8%	15.3%
9	Percent of Household Received Food Stamps (2016)	23.2%	13.0%
10	(Primary) County Where the Community Is Located	Lawrence County	

(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;

The community did not report any other investments relating to environmental improvements.

(7) 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;

The new requirements associated with this permit will not impose a financial burden on the community, nor will they require the City of Mt. Vernon to seek funding from an outside source.

(8) An assessment of any other relevant local community economic conditions.

The community did not report any other relevant local economic conditions.

The Department contracted with Wichita State University to complete an assessment tool that would allow for predictions on rural Missouri community populations and future sustainability. The purpose of the study is to use a statistical modeling analysis in order to determine factors associated with each rural Missouri community that would predict the future population changes that could occur in each community. A stepwise regression model was applied to 19 factors which were determined as predictors of rural population change in Missouri. The model established a hierarchy of the predicting factors which allowed the model to place a weighted value on each of the factors. A total of 745 rural towns and villages in Missouri received a weighted value for each of the predicting factors. The weighted values for each town / village were then added together to determine an overall decision score. The overall decision scores were then divided into five categories and each town was assigned to a different categorical group based on the overall decision score. The categorical groups were developed from the range of overall scores across all rural towns and villages within Missouri.

Based on the assessment tool, the City of Mt. Vernon has been determined to be a category 5 community. This means that the City of Mt. Vernon is predicted to be stable over time.

Conclusion and Finding

As a result of new regulations, the Department is proposing modifications to the current operating permit that may require the permittee to increase monitoring. The Department has considered the eight (8) criteria presented in subsection 644.145 RSMo to evaluate the cost associated with the new permit requirements.

This analysis examined whether the new sampling requirements affect 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. After reviewing the above criteria, the Department finds that the new sampling requirements may result in a low burden with regard to the community's overall financial capability and a low financial impact for most individual customers/households; therefore, the new permit requirements are affordable.

References

- (A) 2016 MHI in 2016 Dollar: United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B19013: Median Household Income in the Past 12 Months (in 2016 Inflation-Adjusted Dollars).
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B19013&prodType=table.
(B) 2000 MHI in 1999 Dollar: U.S. Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Age and Sex: 2000, Washington, DC. <http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf>.
(C) 2017 CPI, 2016 CPI and 1999 CPI: For United States, United States Bureau of Labor Statistics (2017) Consumer Price Index - All Urban Consumers, United States City Average. All Items. 1982-84=100. http://data.bls.gov/timeseries/CUUR0000SA0?data_tool=Xgtable. For Missouri State: United States Bureau of Labor Statistics (2017) Consumer Price Index - All Urban Consumers, Midwest Urban Areas, All Items. 1982-84=100. http://data.bls.gov/timeseries/CUUR0200SA0?data_tool=Xgtable.
(D) 2016 MHI in 2017 Dollar: 2016 MHI in 2016 Dollar x 2017 CPI / 2016 CPI; 2000 MHI in 2017 Dollar: 2000 MHI in 1999 Dollar x 2017 CPI / 1999 CPI.
(E) Percent Change in Median Household Income (2000-2016) = (2016 MHI in 2017 Dollar - 2000 MHI in 2017 Dollar) / (2000 MHI in 2017 Dollars).
- $(3972/1824 \text{ connections})/12 = \0.18 (Estimated Monthly User Cost for New Requirements)
- $(0.18/(32,873/12))100\% = 0.007\%$ (New Sampling Only)
- $(38.90/(32,873/12))100\% = 1.420\%$ (Total User Cost)
- (A) Total Population in 2016: United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B01003: Total Population - Universe: Total Population.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B01003&prodType=table.
(B) Total Population in 2000: U.S. Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Age and Sex: 2000, Washington, DC. <http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf>.
(C) Percent Change in Population (2000-2016) = (Total Population in 2016 - Total Population in 2000) / (Total Population in 2000).
- (A) Median Age in 2016: United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B01002: Median Age by Sex - Universe: Total population.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B01002&prodType=table.
(B) Median Age in 2000: For United States, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Social, Economic, and Housing Characteristics, PHC-1-1 Part 1. United States Summary, Table 1. Age and Sex: 2000, Washington, DC., Page 2. <https://www.census.gov/prod/cen2000/phc-1-1-pt1.pdf>. For Missouri State, United States Census Bureau (2002) 2000 Census of Population and Housing, Summary Population and Housing Characteristics, PHC-1-27, Missouri, Table 2. Age and Sex: 2000, Washington, DC., Pages 64-92. <http://www.census.gov/prod/cen2000/phc-2-27-pt1.pdf>.
(C) Change in Median Age in Years (2000-2016) = (Median Age in 2016 - Median Age in 2000).
- United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, B23025: Employment Status for the Population 16 Years and Over - Universe: Population 16 years and Over.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B23025&prodType=table.
- United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table S1701: Poverty Status in the Past 12 Months. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_S1701&prodType=table.
- United States Census Bureau. 2012-2016 American Community Survey 5-Year Estimates, Table B22003: Receipt of Food Stamps/SNAP in the Past 12 Months by Poverty Status in the Past 12 Months for Households - Universe: Households.
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_16_5YR_B22003&prodType=table.

APPENDIX – PRETREATMENT MODIFICATION REQUEST LETTER

City of Mount Vernon



P.O. Box 70 • 109 N. Hickory Street • Phone 417/466/2122 • Mount Vernon, Mo. 65712

May 6, 2020

Mr. Todd Blanc
Pretreatment Program
Water Protection Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

RE: Pretreatment Program Modifications for the City of Mount Vernon, Missouri: MO-0022381

Dear Mr. Blanc:

Please find enclosed for your review and approval proposed modifications to the City of Mount Vernon's Pretreatment Program. These modifications constitute a "substantial modification" of the program as defined in 40 CFR 403(18)(b). The following is an overview of the modifications to the program:

Pretreatment Ordinance (Chapter 720)

The ordinance submitted for review replaces the City's current Chapter 720 with a new Chapter based on the EPA model ordinance which adopts the required streamlining rule changes. In addition, the following is an overview of the optional provisions included in the ordinance as part of the program update:

1. General Prohibitions. Note that hazardous waste is not authorized. [720.020]
2. Adoption allowable mass limits in lieu of local limits. [720.020(A)(3)]
3. Equivalent mass and concentrations for categorical standards except the net/gross adjustment.
4. Best Management Practices [720.020(D)(2)]
5. Additional Pretreatment Measures [720.030(B)]
6. Permit Appeals [720.050(C)]
7. Categorical waiver of pollutants not present [720.060(D)(2)]
8. Supplemental enforcement actions [720.130]

Local Limit Evaluation

The ordinance incorporates the allowable mass loadings developed by Geosyntec as identified in the report. This report has been previously reviewed by the Department but is being formally submitted as part of the program update and public notice process.

Enforcement Response Plan (ERP)

The submittal also includes a revised Enforcement Response Plan (ERP). The updated ERP reflects the changes made to the control authority's legal authority and the resulting implications for enforcement. The plan includes an Enforcement Table that has additional violation scenarios.

"Honoring Tradition, Embracing the Future"

The ERP document is not being approved as part of the City's ordinance; alternatively, it is being submitted as a stand-alone document with the ability to update or modify with appropriate reviews by Missouri DNR.

Additional Documentation

The following documentation related to these modifications is included below:

- As an official of the City of Mount Vernon stating that the program modifications made herein do not affect the POTW's authority or ability to adequately to carry out the programs described in §403.8. This statement is made as required by §403.9(b)(1).
 - These modifications do not modify the basis for each procedure under 403.8(f)(2).
 - The implementation of the Pretreatment Program is not altered and will continue to be implemented via ordinance and individual industrial user permits.
 - As discussed above, the City will ensure compliance with Pretreatment Standards and Requirements and will follow their Enforcement Response Guide in the event of noncompliance by Industrial Users.
- Attached is also documentation of the endorsement and approval of the above modifications to the ordinance and the Enforcement Response Plan. The City Council also endorsed their continued support, supervising, and funding of the POTW program pursuant to §403.9(b)(2).

Legal Review

The Sewer Use Ordinance and Enforcement Response Plan has been reviewed by the City's legal counsel to ensure the City has adequate authority to carry out the program as required in 403.8 of the Code of Federal Regulations.

Please notify us if you require any additional information on the documented program modifications. Please contact Kim Cole at 314-276-9575 or Joe Kelley at 417-466-2122 for any further documentation or questions.

Sincerely,



Joe Kelley
City of Mount Vernon

Enclosures:

Updated Sewer Use Ordinance
Local Limit Report (by Geosyntec)
Enforcement Response Plan
City Council Endorsement Documentation
Statement of Legal Authority



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
 - a. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
 - a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
 - b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
 - iii. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
 - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



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- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - ii. Any upset which exceeds any effluent limitation in the permit.
 - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
 - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
 4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
 5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
 6. **Other Information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
 7. **Discharge Monitoring Reports.**
 - a. Monitoring results shall be reported at the intervals specified in the permit.
 - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
 - c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.
- b. Notice.
 - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
 - c. Prohibition of bypass.
 - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 3. The permittee submitted notices as required under paragraph 2. b. of this section.
 - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
 - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
 - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
 - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section C – Bypass/Upset Requirements

1. **Definitions.**
 - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
 - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
2. **Bypass Requirements.**
 - a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement



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imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
 - d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
 - a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
 - b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission

for applications to be submitted later than the expiration date of the existing permit.)

- c. A permittee with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
 4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
 5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
 6. **Permit Actions.**
 - a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - i. Violations of any terms or conditions of this permit or the law;
 - ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
 - iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
 - iv. Any reason set forth in the Law or Regulations.
 - b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
 7. **Permit Transfer.**
 - a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
 - b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
 - c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
 8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



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10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
 - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
 - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
 - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
 - b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
 - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.



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REVISED
MAY 1, 2013

PART II - SPECIAL CONDITIONS – PUBLICLY OWNED
TREATMENT WORKS
SECTION A – INDUSTRIAL USERS

1. Definitions

Definitions as set forth in the Missouri Clean Water Laws and approved by the Missouri Clean Water Commission shall apply to terms used herein.

Significant Industrial User (SIU). Except as provided in the *General Pretreatment Regulation* 10 CSR 20-6.100, the term Significant Industrial User means:

1. All Industrial Users subject to Categorical Pretreatment Standards; and
2. Any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater to the Publicly-Owned Treatment Works (POTW) (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's or for violating any Pretreatment Standard or requirement.

Clean Water Act (CWA) is the the federal Clean Water Act of 1972, 33 U.S.C. § 1251 et seq. (2002).

2. Identification of Industrial Discharges

Pursuant to 40 CFR 122.44(j)(1), all POTWs shall identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR 403.

3. Application Information

Applications for renewal or modification of this permit must contain the information about industrial discharges to the POTW pursuant to 40 CFR 122.21(j)(6)

4. Notice to the Department

Pursuant to 40 CFR 122.42(b), all POTWs must provide adequate notice of the following:

1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging these pollutants; and
2. Any substantial change into the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
3. For purposes of this paragraph, adequate notice shall include information on:
 - i. the quality and quantity of effluent introduced into the POTW, and
 - ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

For POTWs without an approved pretreatment program, the notice of industrial discharges which was not included in the permit application shall be made as soon as practicable. For POTWs with an approved pretreatment program, notice is to be included in the annual pretreatment report required in the special conditions of this permit. Notice may be sent to:

Missouri Department of Natural Resources
Water Protection Program
Attn: Pretreatment Coordinator
P.O. Box 176
Jefferson City, MO 65102

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
August 1, 2019

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.
2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Biosolids and Sludge Use and Disposal Practices:
 - a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
 - b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
 - c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.
4. Biosolids or Sludge Received from other Facilities:
 - a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee's design sludge capacity is not exceeded and the treatment facility performance is not impaired.
 - b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge
5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.
6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.
8. In addition to Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
 - a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
 - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.

SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR Part 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with 40 CFR Part 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limited to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – BIOSOLIDS OR SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR BY CONTRACT HAULER

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or, if the ash is determined to be hazardous, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
 - a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
 - b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes “Class A” or “Class B” biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
 - a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
 - b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
 - c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
 - d. Animal grazing shall not be allowed for 30 days after application of biosolids.
 - e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
 - f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
 - g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
 - h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.
5. Pollutant limits
 - a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
 - b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
 - c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

TABLE 1

Biosolids ceiling concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

- d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track pollutant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

Biosolids Low Metal Concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2,800

- e. Annual pollutant loading rate.

Table 3

Biosolids Annual Loading Rate	
Pollutant	Kg/ha (lbs./ac) per year
Arsenic	2.0 (1.79)
Cadmium	1.9 (1.70)
Copper	75 (66.94)
Lead	15 (13.39)
Mercury	0.85 (0.76)
Nickel	21 (18.74)
Selenium	5.0 (4.46)
Zinc	140 (124.96)

- f. Cumulative pollutant loading rates.

Table 4

Biosolids Cumulative Pollutant Loading Rate	
Pollutant	Kg/ha (lbs./ac)
Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)
Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
- Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
 - Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
 - The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop

nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kgTN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

- i. PAN can be determined as follows:
(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor¹).
¹ Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
- ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.
- iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.
- d. Buffer zones are as follows:
 - i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;
 - ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
 - iii. 150 feet of dwellings or public use areas;
 - iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);
 - v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.
 - vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.
- e. Slope limitation for application sites are as follows:
 - i. For slopes less than or equal to 6 percent, no rate limitation;
 - ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;
 - iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
 - iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.
- f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
- g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:
 - i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;
 - ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation;
 - iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6.010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
 - a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
 - b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
 - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
 - i. PAN can be determined as follows:
$$(\text{Nitrate} + \text{nitrite nitrogen}) + (\text{organic nitrogen} \times 0.2) + (\text{ammonia nitrogen} \times \text{volatilization factor}^1).$$
¹ Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volatilization factors and mineralization rates can be utilized on a case-by-case basis.
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are “similar treatment works” under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. Under the septage category, residuals may be left in place as follows:
 - a. Testing for metals or fecal coliform is not required.
 - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
 - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain $\geq 70\%$ vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
 - a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain $\geq 70\%$ vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

- surface water drainage without creating erosion.
- b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.
 - c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.
8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

Biosolids or Sludge produced and disposed (Dry Tons per Year)	Monitoring Frequency (See Notes 1, and 2)		
	Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium	Nitrogen TKN, Nitrogen PAN ¹	Priority Pollutants ²
319 or less	1/year	1 per month	1/year
320 to 1650	4/year	1 per month	1/year
1651 to 16,500	6/year	1 per month	1/year
16,501+	12/year	1 per month	1/year

¹ Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

² Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.

Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit.
4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
 - a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
 - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:
Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

DNR regional or other applicable office listed in the
permit (see cover letter of permit)
ATTN: Sludge Coordinator

Reports to EPA must be electronically submitted online via the Central Data Exchange at: <https://cdx.epa.gov/> Additional information is available at: <https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws>

5. Annual report contents. The annual report shall include the following:
 - a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
 - b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/or disposed.
 - c. Gallons and % solids data used to calculate the dry ton amounts.
 - d. Description of any unusual operating conditions.
 - e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
 - i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
 - ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
 - f. Contract Hauler Activities:

If using a contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate biosolids or sludge use permit.
 - g. Land Application Sites:
 - i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
 - ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
 - iii. Report the method used for compliance with pathogen and vector attraction requirements.
 - iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.

28313

RECEIVED

OCT 16 2017



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

Water Protection Program

**FORM B2 – APPLICATION FOR AN OPERATING PERMIT FOR
FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND
HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY**

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED
10-16-17	-0-

JS.

PART A – BASIC APPLICATION INFORMATION**1. THIS APPLICATION IS FOR:**

- ☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
(Include completed Antidegradation Review or request to conduct an Antidegradation Review, see instructions)
- ☐ An operating permit renewal: Permit #MO- _____ Expiration Date 3/31/18
- ☒ An operating permit modification: Permit #MO-0022381 Reason: _____

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? ☐ YES ☐ NO

2. FACILITY

NAME: Mt. Vernon Wastewater Treatment Facility TELEPHONE NUMBER WITH AREA CODE: 417-466-2122

ADDRESS (PHYSICAL): N. HWY 39 CITY: Mt. Vernon STATE: Mo ZIP CODE: 65712

2.1 LEGAL DESCRIPTION (Facility Site): nw ¼, se ¼, ¼, Sec. 25, T 28, R 27w COUNTY: Lawrence

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: Williams Creek

2.4 Number of Outfalls: 1 wastewater outfalls, 0 stormwater outfalls, 2 instream monitoring sites

3. OWNER

NAME: City of Mt. Vernon EMAIL ADDRESS: TELEPHONE NUMBER WITH AREA CODE: 417-466-2122

ADDRESS: 319 E. Dallas CITY: Mt. Vernon STATE: MO ZIP CODE: 65712

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

3.2 Are you a Publically Owned Treatment Works (POTW)? ☒ YES ☐ NO
If yes, is the Financial Questionnaire attached? ☒ YES ☐ NO

3.3 Are you a Privately Owned Treatment Facility? ☐ YES ☒ NO

3.4 Are you a Privately Owned Treatment Facility regulated by the Public Service Commission (PSC)? ☐ YES ☐ NO

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

NAME: City of Mt. Vernon EMAIL ADDRESS: TELEPHONE NUMBER WITH AREA CODE: 417-466-2122

ADDRESS: 319 E. Dallas CITY: Mt. Vernon STATE: Mo ZIP CODE: 65712

If the Continuing Authority is different than the Owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME: Bert Bond TITLE: Contract Operator CERTIFICATE NUMBER (IF APPLICABLE):

EMAIL ADDRESS: bond8X11@yahoo.com TELEPHONE NUMBER WITH AREA CODE: Cell# 417-693-3590

6. FACILITY CONTACT

NAME: Gene Stanton TITLE: Public Works Director

EMAIL ADDRESS: gstanton@mtvernon-cityhall.org TELEPHONE NUMBER WITH AREA CODE: 417-466-2168

ADDRESS: 319 E. Dallas CITY: Mt. Vernon STATE: Mo ZIP CODE: 65712



FACILITY NAME City of Mt. Vernon	PERMIT NO. MO- 0022381	OUTFALL NO. 001
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PART A – BASIC APPLICATION INFORMATION

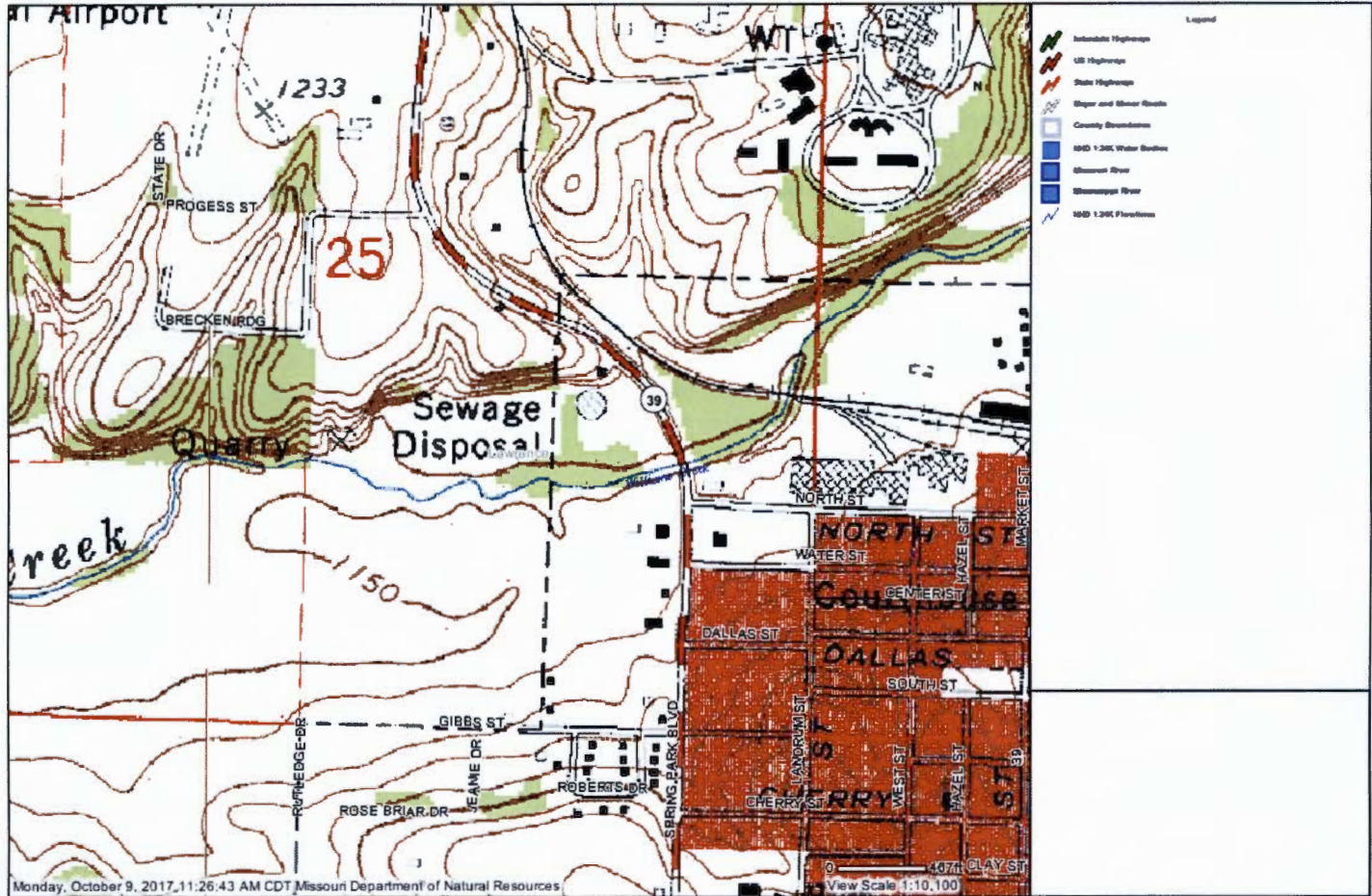
7. FACILITY INFORMATION

7.1 Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – Chlorination and Dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram.
Attach sheets as necessary.

Flow equalization basin / head-works step screen / grit chamber / 2 oxidation ditches / 2 final clarifiers / 2 tertiary sand filters / ultraviolet disinfection / effluent concrete re-aeration steps / 3 aerated sludge holding tanks / sludge land applied.

See drawing next page.

Mt Vernon



Missouri
Department of
Natural Resources

This timestamp indicates the date and time the map was generated. Data layers in the map are updated at a variety of intervals and may not reflect current conditions. Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

FACILITY NAME City of Mt. Vernon	PERMIT NO. MO-0022381	OUTFALL NO. 1
PART A – BASIC APPLICATION INFORMATION		
7. FACILITY INFORMATION (continued)		
<p>7.2 Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information.</p> <ul style="list-style-type: none"> a. The area surrounding the treatment plant, including all unit processes. b. The location of the downstream landowner(s). (See Item 10.) c. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable. d. The actual point of discharge. e. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant. f. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed. g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, or disposed. 		
7.3 Facility SIC Code: 4952	Discharge SIC Code: _____	
7.4 Number of people presently connected or population equivalent (P.E.): 4570 Design P.E. 6500		
<p>7.5 Connections to the facility:</p> <p>Number of units presently connected:</p> <p>Homes 1590 Trailers 15 Apartments 219 Other (including industrial) _____</p> <p>Number of Commercial Establishments: _____</p>		
7.6 Design Flow 1.35 MGD	Actual Flow 0.515 MGD	
<p>7.7 Will discharge be continuous through the year? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Discharge will occur during the following months: How many days of the week will discharge occur?</p>		
<p>7.8 Is industrial wastewater discharged to the facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>If yes, describe the number and types of industries that discharge to your facility. Attach sheets as necessary</p> <p>Refer to the APPLICATION OVERVIEW to determine whether additional information is needed for Part F.</p>		
7.9 Does the facility accept or process leachate from landfills?:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
7.10 Is wastewater land applied? If yes, is Form I attached?	Yes <input type="checkbox"/> Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> No <input type="checkbox"/>
7.11 Does the facility discharge to a losing stream or sinkhole?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
7.12 Has a wasteload allocation study been completed for this facility?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
8. LABORATORY CONTROL INFORMATION		
LABORATORY WORK CONDUCTED BY PLANT PERSONNEL		
Lab work conducted outside of plant.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Push-button or visual methods for simple test such as pH, settleable solids.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Additional procedures such as Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand, titrations, solids, volatile content.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

FACILITY NAME City of Mt. Vernon		PERMIT NO. MO- 0022381		OUTFALL NO. 1	
PART A – BASIC APPLICATION INFORMATION					
9. SLUDGE HANDLING, USE AND DISPOSAL					
9.1 Is the sludge a hazardous waste as defined by 10 CSR 25? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
9.2 Sludge production (Including sludge received from others): Design Dry Tons/Year 230 Actual Dry Tons/Year					
9.3 Sludge storage provided: _____ Cubic feet; <u>200</u> Days of storage; <u>3.20</u> Average percent solids of sludge; <input type="checkbox"/> No sludge storage is provided. <input type="checkbox"/> Sludge is stored in lagoon.					
9.4 Type of storage: <input checked="" type="checkbox"/> Holding Tank <input type="checkbox"/> Building <input type="checkbox"/> Basin <input type="checkbox"/> Lagoon <input type="checkbox"/> Concrete Pad <input type="checkbox"/> Other (Describe) _____					
9.5 Sludge Treatment: <input type="checkbox"/> Anaerobic Digester <input type="checkbox"/> Storage Tank <input type="checkbox"/> Lime Stabilization <input type="checkbox"/> Lagoon <input checked="" type="checkbox"/> Aerobic Digester <input type="checkbox"/> Air or Heat Drying <input type="checkbox"/> Composting <input type="checkbox"/> Other (Attach Description)					
9.6 Sludge use or disposal: <input checked="" type="checkbox"/> Land Application <input type="checkbox"/> Contract Hauler <input type="checkbox"/> Hauled to Another Treatment Facility <input type="checkbox"/> Solid Waste Landfill <input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) <input type="checkbox"/> Incineration <input type="checkbox"/> Other (Attach Explanation Sheet) _____					
9.7 Person responsible for hauling sludge to disposal facility: <input type="checkbox"/> By Applicant <input checked="" type="checkbox"/> By Others (complete below)					
NAME Clean Stream Enterprises			EMAIL ADDRESS bond8X11@yahoo.com		
ADDRESS 102 E. Brown St		CITY Clever		STATE MO	ZIP CODE 65631
CONTACT PERSON Bert Bond		TELEPHONE NUMBER WITH AREA CODE 417-693-3590		PERMIT NO. MO- 0022381	
9.8 Sludge use or disposal facility: <input checked="" type="checkbox"/> By Applicant <input type="checkbox"/> By Others (Complete below)					
NAME			EMAIL ADDRESS		
ADDRESS		CITY		STATE	ZIP CODE
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE		PERMIT NO. MO-	
9.9 Does the sludge or biosolids disposal comply with Federal Sludge Regulation 40 CFR 503? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain)					
END OF PART A					

FACILITY NAME City of Mt. Vernon	PERMIT NO. MO-0022381	OUTFALL NO.
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PART B – ADDITIONAL APPLICATION INFORMATION

10. COLLECTION SYSTEM

10.1 Length of sanitary sewer collection system in miles
39.5

10.2 Does significant infiltration occur in the collection system? ☒ Yes ☐ No
If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

See Exhibit A

11. BYPASSING

Does any bypassing occur anywhere in the collection system or at the treatment facility? Yes ☐ No ☒
If yes, explain:

12. OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of the contractor?
Yes ☒ No ☐
If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities.
(Attach additional pages if necessary.)

NAME Bert Bond	
MAILING ADDRESS 102 E. Brown St. Clever MO, 65631	
TELEPHONE NUMBER WITH AREA CODE Cell# 417-693-3590	EMAIL ADDRESS bond8X11@yahoo.com
RESPONSIBILITIES OF CONTRACTOR Normal Operation & Maintenance	

13. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

Provide information about any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses for each.

1 Executive Summary

1.1 Introduction

Based on several regulatory initiatives at the State and Federal levels, more stringent permit limits will begin to be implemented in Missouri over the course of the next few years. Many of these new regulatory initiatives will apply to activated sludge wastewater treatment plant (WWTF), like the treatment plant the City of Mt. Vernon operates. The City is currently having issues with lack of capacity at the treatment plant especially during heavy rain events.

In December 2014 the City solicited a Request for Engineering Services to conduct a preliminary wastewater treatment study of the existing WWTF to determine what upgrades are needed to meet current and future regulatory requirements. The City hired TREKK Design Group (TREKK) in February of 2015. This report presents the findings and conclusions of the wastewater collection and treatment study performed by TREKK and evaluates the adequacy of the existing sewer system and what actions the City should take to properly operate and maintain the WWTP and collection system.

1.2 General Overview

This report is a thorough assessment of the City of Mt. Vernon's Wastewater Collection and Treatment Systems. This report was written with the objective of presenting the findings of an engineering study that was paid for to help the City meeting operating requirements set by the Department of Natural Resources. Specifically this report evaluates the recommended approach to reduce I&I and to bring the wastewater treatment plant into compliance with the newly issued Missouri State Operating Permit limits. In particular, the treatment facility will now be required to remove 2 outfalls and limit the amount of flow that bypasses the plant filters as found in the Missouri state operating permit limits for the City. A copy of the operating permit can be found in Appendix A.

Field tasks performed as part of this study included; flow and rainfall monitoring, installation of iTrackers and I&Eye cameras, comprehensive manhole inspections, acoustic sounding, smoke testing and CCTV. Results from the field inspection activities were utilized to generate a defect repair cost analysis and recommendations for treatment system improvements. Flow monitoring was performed in order to determine flow entering the treatment plant. I&Eye cameras were installed in order to observe flow from different basins inside the collection area. Data from all devices along with population models, was used to determine future flows for the design year 2037. Manhole data collection was performed in order to determine a manhole inventory including size of manholes, type of construction material, depths and pertinent attributes. Acoustic sounding was performed on the collection system in order to identify areas which may have diminished capacity or blockage. Lift station data was used from a report previous performed by HDR in 2006 in order to determine the current flow pumping rates in both single and dual

pump operation. In addition, a plan has been developed to update and properly maintain the collection system and the one lift station.

The scope of TREKK's study includes the following:

- 1 Perform topographical measurements and survey of existing wastewater facility to determine existing volume and treatment capacity.
- 2 Prepare maps for analysis of existing wastewater facility and final design of improved wastewater facility.
- 3 Evaluate capacity and performance of existing wastewater facility.
- 4 Evaluate conformance of existing wastewater facility with current MDNR regulations.
- 5 Prepare conceptual designs for improving and modifying existing wastewater treatment facility with MDNR specifications to meet plan requirements for next phase of work.
- 6 Provide budgetary cost estimate for recommended improvements to the wastewater treatment facility.

TREKK's study is based on the following:

- 1 Current and anticipated growth of population at the school facility.
- 2 Current and anticipated upcoming MDNR regulations.
- 3 Suitability of improvements with existing site.
- 4 Estimated cost of improvements.
- 5 Suitability of improvements with Owner's maintenance and staff.

1.3 Findings

Field inspection activities were conducted to locate, quantify, and evaluate rainfall derived inflow and infiltration (RDII) entering the City's wastewater collection system. The following paragraphs briefly discuss the findings of TREKK's evaluation of the wastewater collection system within the Study Areas shown in Figure 1.1.

- Flow monitoring results - 1 flow meter was installed to quantify the amount of I&I entering the system. Basin 1 had a peaking factor of 37.0. Basin 2 had a peaking factor of 50.5. Basin 3 had an average peaking factor of 20.5 (two flow meters). Basin 4.1 had a peaking factor of 22.0. Basin 4.2 had an average peaking factor of 31.8 (two flow meters). Basin 5 had a peaking factor of 27.7. DNR considers anything above a 2.5 peaking factor as excessive I&I.
- Manhole inspection results - 746 out of the 861 manholes structures throughout the City were inspected. 103 manholes were designated as Buried, 3 designated as Not Found, 1 designated as

Surcharged, and 2 designated as No Access. There were 194 manholes that showed evidence of I&I, 326 that showed evidence of surcharge, 170 that had evidence of Hydrogen Sulfide (H₂S) damage, 13 that showed evidence of an Emergency Situation, and 1 that showed evidence of an overflow.

- Lamphole inspection results - 1 out of the 28 lamphole structures throughout the City was inspected. 21 lampholes were designated as buried, 1 was designated as No Access, and 5 were designated as Not Found.
- Acoustic sounding results - 53 out of the 933 gravity sewer pipeline segments (12,684 LF of 208,780 LF) throughout the city were inspected. 12 of the pipe segments (2,385 LF) tested as Good. 8 of the pipe segments (1,801 LF) tested as Fair. 15 of the pipe segments (3,553 LF) tested as Poor. 20 of the pipe segments (5,261 LF) tested as Blocked. The remaining 882 were not tested.
- Smoke testing results - 57 out of 933 gravity sewer pipeline segments (13,413 LF of 208,780 LF) in basin 4.1 were tested. 43 public side defects were identified. 55 private side defects were identified.
- iTracker results - A total of 3 iTrackers, level sensors, were installed to create sub-basins within basin 4.1 to assist in determining the sections of system that have a high amount of I&I. Basin 4.1 was broken up into 3 sub-basins and level readings were recorded along with photos from the I&Eye camera installed in the manholes. Increased levels were observed at all sites during rain events but the iTracker and camera recorded multiple surcharging events at manhole H1-4.
- CCTV results – CCTV was completed in 2010 on 599 line segments and approximately 136, 638 linear feet of the collection system. 176 pipe segments equating to approximately 47, 828 linear feet received and overall pipe quick score rating of 5.

1.4 Recommendations

1.4.1 Rehabilitation

1.4.1.1 Gravity Main Rehabilitation and CIPP Program

The projected cost to remove identified I&I and repair pipe segments identified via CCTV and smoke testing in Basin 4.1 is estimated at \$200,000. Removal of I&I can be achieved by removing any sources of water entering the sanitary sewer through defects found on the public side. Examples of public-sector defects include: main line and manhole (rim and wall) defects.

1.4.1.2 20 Year Capital Improvement Plan

TREKK has compiled a 20-year CIP for the collection system that will help to identify issues within the system that are attributing to I&I and then in subsequent years rehabilitate or replace the necessary components. The total budget is projected at \$5,756,035 over the 20 years. The SSES budget is

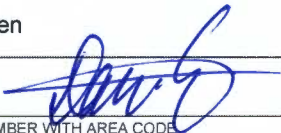
\$1,339,748 and the rehabilitation budget is \$4,377,995. The total expenditures are \$5,717,743 with \$38,292 left in the budget at the end of the CIP. The CIP consists of 27 % SSES and 73% rehabilitation/replacements.

1.4.2 Wastewater Treatment Facility (WWTF)

The City must systematically determine the basin(s) that contribute the most loading to the WWTF. Through the pretreatment program the City must begin working with the industrial/commercial contributor(s) to reduce the organic loading to extend the life of the existing WWTF. Restaurants may need to also be sampled to determine the need for fats, oils and grease program.

Should the City not be successful in reducing the organic loading, an interim addition of aeration would be needed. This could be accomplished by the addition of surface aerators, motor blower combinations that could be evaluated if the loading could not be reduced.

FACILITY NAME City of Mt. Vernon			PERMIT NO. MO- 0022381			OUTFALL NO.		
PART B – ADDITIONAL APPLICATION INFORMATION								
14. EFFLUENT TESTING DATA								
Applicants must provide effluent testing data for the following parameters. Provide the indicated effluent data for each outfall through which effluent is discharged . Do not include information of combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.								
Outfall Number								
PARAMETER		MAXIMUM DAILY VALUE			AVERAGE DAILY VALUE			
		Value	Units	Value	Units	Number of Samples		
pH (Minimum)		7.36	S.U.	7.59	S.U.	184		
pH (Maximum)		8.11	S.U.	8.12	S.U.	184		
Flow Rate		4.452	MGD	0.506	MGD	210		
*For pH report a minimum and a maximum daily value								
POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
		Conc.	Units	Conc.	Units	Number of Samples		
Conventional and Nonconventional Compounds								
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD ₅	60	mg/L	0.2	mg/L	30	SM 5210 B	
	CBOD ₅		mg/L		mg/L			
E. COLI		280	#/100 mL	<2	#/100 mL	30	Hach 10029	
TOTAL SUSPENDED SOLIDS (TSS)		15	mg/L	2	mg/L	30	SM 2540 D	
AMMONIA (as N)		3.15	mg/L	0.121	mg/L	30	SM 4500 H 3 F	
CHLORINE* (TOTAL RESIDUAL, TRC)		N/A	mg/L	N/A	mg/L	N/A	N/A	
DISSOLVED OXYGEN		5.16	mg/L	4.42	mg/L	210	YSI 555-A	
OIL and GREASE		2.9	mg/L	<1.6	mg/L	30	EPA 1664 B	
OTHER			mg/L		mg/L			
*Report only if facility chlorinates								
END OF PART B								

FACILITY NAME City of Mt. Vernon	PERMIT NO. MO- 0022381	OUTFALL NO.
PART C – CERTIFICATION		
15. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM		
<p>Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally-consistent set of data. One of the following must be checked in order for this application to be considered complete. Please visit http://dnr.mo.gov/env/wpp/edmr.htm to access the Facility Participation Package.</p> <p><input type="checkbox"/> - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.</p> <p><input checked="" type="checkbox"/> - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.</p> <p><input type="checkbox"/> - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.</p>		
16. CERTIFICATION		
<p>All applicants must complete the Certification Section. This certification must be signed by an officer of the company or city official. All applicants must complete all applicable sections as explained in the Application Overview. By signing this certification statement, applicants confirm that they have reviewed the entire form and have completed all sections that apply to the facility for which this application is submitted.</p> <p>ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.</p> <p>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 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.</p>		
PRINTED NAME David W. Eden	OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL) Mayor	
SIGNATURE 		
TELEPHONE NUMBER WITH AREA CODE 417-466-2122		
DATE SIGNED 10/11/2017		
<p>Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.</p>		
<p>Send Completed Form to:</p> <p style="text-align: center;"> Department of Natural Resources Water Protection Program ATTN: NPDES Permits and Engineering Section P.O. Box 176 Jefferson City, MO 65102-0176 </p>		
END OF PART C		
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH PARTS OF FORM B2 YOU MUST COMPLETE.		
<p>Do not complete the remainder of this application, unless at least one of the following statements applies to your facility:</p> <ol style="list-style-type: none"> 1. Your facility design flow is equal to or greater than 1,000,000 gallons per day. 2. Your facility is a pretreatment treatment works. 3. Your facility is a combined sewer system. 		
<p>Submittal of an incomplete application may result in the application being returned. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.</p>		

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL											
FACILITY NAME City of Mt. Vernon					PERMIT NO. MO- 0022381				OUTFALL NO.		
PART D – EXPANDED EFFLUENT TESTING DATA											
17. EXPANDED EFFLUENT TESTING DATA											
Refer to the APPLICATION OVERVIEW to determine whether Part D applies to the treatment works.											
<p>If the treatment works has a design flow greater than or equal to 1 million gallons per day or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information for each outfall through which effluent is discharged. Do not include information of combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years apart.</p>											
Outfall Number (Complete Once for Each Outfall Discharging Effluent to Waters of the State.)											
POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS AND HARDNESS											
ALUMINUM											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM III											
CHROMIUM VI											
COPPER											
IRON											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (as CaCO ₃)											
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											

FACILITY NAME City of Mt. Vernon				PERMIT NO. MO- 0022381				OUTFALL NO.			
PART D – EXPANDED EFFLUENT TESTING DATA											
17. EXPANDED EFFLUENT TESTING DATA											
Complete Once for Each Outfall Discharging Effluent to Waters of the State											
POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
CHLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYL VINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLORO-ETHANE											
1,2-DICHLORO-ETHANE											
TRANS-1,2-DICHLOROETHYLENE											
1,1-DICHLORO-ETHYLENE											
1,2-DICHLORO-PROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRA-CHLOROETHANE											
TETRACHLORO-ETHANE											
TOLUENE											
1,1,1-TRICHLORO-ETHANE											
1,1,2-TRICHLORO-ETHANE											
TRICHLORETHYLENE											
VINYL CHLORIDE											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											

FACILITY NAME	City of Mt. Vernon	PERMIT NO.	MO- 0022381	OUTFALL NO.	
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PART D – EXPANDED EFFLUENT TESTING DATA
17. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State.

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											
3,4-BENZO-FLUORANTHENE											
BENZO(GH) PHERYLENE											
BENZO(K) FLUORANTHENE											
BIS (2-CHLOROTHOXY) METHANE											
BIS (2-CHLOROETHYL) – ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPH-THALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO (A,H) ANTHRACENE											
1,2-DICHLORO-BENZENE											
1,3-DICHLORO-BENZENE											
1,4-DICHLORO-BENZENE											
3,3-DICHLORO-BENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME City of Mt. Vernon	PERMIT NO. MO- 0022381	OUTFALL NO.
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PART E – TOXICITY TESTING DATA
18. TOXICITY TESTING DATA

Refer to the APPLICATION OVERVIEW to determine whether Part E applies to the treatment works.

Publicly owned treatment works, or POTWs, meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points.

- A. POTWs with a design flow rate greater than or equal to 1 million gallons per day
- B. POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403)
- C. POTWs required by the permitting authority to submit data for these parameters
 - At a minimum, these results must include quarterly testing for a 12-month period within the past one year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute or chronic toxicity, depending on the range of receiving water dilution. Do not include information about combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
 - If EPA methods were not used, report the reason for using alternative methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E. If no biomonitoring data is required, do not complete Part E. Refer to the application overview for directions on which other sections of the form to complete.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years: _____ chronic _____ acute

Complete the following chart for the last three whole effluent toxicity tests. Allow one column per test. Copy this page if more than three tests are being reported.

	Most Recent	2 ND Most Recent	3 RD Most Recent
A. Test Information			
Test Method Number			
Final Report Number			
Outfall Number			
Dates Sample Collected			
Date Test Started			
Duration			
B. Toxicity Test Methods Followed			
Manual Title			
Edition Number and Year of Publication			
Page Number(s)			
C. Sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used			
24-Hour Composite			
Grab			
D. Indicate where the sample was taken in relation to disinfection (Check all that apply for each)			
Before Disinfection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After Disinfection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After Dechlorination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Describe the point in the treatment process at which the sample was collected			
Sample Was Collected:			
F. Indicate whether the test was intended to assess chronic toxicity, acute toxicity, or both			
Chronic Toxicity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acute Toxicity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Provide the type of test performed			
Static	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Static-renewal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flow-through	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Source of dilution water. If laboratory water, specify type; if receiving water, specify source			
Laboratory Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receiving Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FACILITY NAME City of Mt. Vernon	PERMIT NO. MO- 0022381	OUTFALL NO.
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PART E – TOXICITY TESTING DATA

18. TOXICITY TESTING DATA (continued)

	Most Recent	Second Most Recent	Third Most Recent
I. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh Water			
Salt Water			
J. Percentage of effluent used for all concentrations in the test series			
K. Parameters measured during the test (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved Oxygen			
L. Test Results			
Acute:			
Percent Survival in 100% Effluent			
LC ₅₀			
95% C.I.			
Control Percent Survival			
Other (Describe)			
Chronic:			
NOEC			
IC ₂₅			
Control Percent Survival			
Other (Describe)			
M. Quality Control/ Quality Assurance			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (Describe)			
Is the treatment works involved in a toxicity reduction evaluation? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, describe:			
If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.			
Date Submitted (MM/DD/YYYY)			
Summary of Results (See Instructions)			
END OF PART E			
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.			

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

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PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION**19.1** Does the treatment works have, or is it subject to, an approved pretreatment program?☒ Yes ☐ No**19.2** Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:Number of non-categorical SIUs 1Number of CIUs 3**20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION**

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME

See Attached Sheets

MAILING ADDRESS

CITY

STATE

ZIP CODE

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge**20.2** Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s):

Raw Material(s):

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

gpd ☐ Continuous ☐ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

gpd ☐ Continuous ☐ Intermittent

20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:a. Local Limits ☐ Yes ☐ Nob. Categorical Pretreatment Standards ☐ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?☐ Yes ☐ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL			
FACILITY NAME City of Mt. Vernon	PERMIT NO. MO- 0022381	OUTFALL NO.	
PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES			
Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.			
19. GENERAL INFORMATION			
19.1 Does the treatment works have, or is it subject to, an approved pretreatment program? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
19.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works: Number of non-categorical SIUs <u>1</u> Number of CIUs <u>3</u>			
20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION			
Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.			
NAME Schreiber Foods Inc.			
MAILING ADDRESS 108 W. North St.	CITY Mt. Vernon	STATE Mo	ZIP CODE 65712
20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge Manufacture of food products			
20.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge. Principal Product(s): Cheese Raw Material(s): Milk			
20.3 Flow Rate a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent. gpd <input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent. gpd <input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent			
20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following: a. Local Limits <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No b. Categorical Pretreatment Standards <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If subject to categorical pretreatment standards, which category and subcategory?			
20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, describe each episode			

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

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PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION**19.1** Does the treatment works have, or is it subject to, an approved pretreatment program?☒ Yes ☐ No**19.2** Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:Number of non-categorical SIUs 1Number of CIUs 3**20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION**

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME

T & C Stainless

MAILING ADDRESS

1016 Progress St,

CITY

Mt. Vernon

STATE

Mo

ZIP CODE

65712

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge
Manufacture of stainless vessels**20.2** Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): fabrication, and electro polish

Raw Material(s): superaustenitic stainless steel

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

gpd ☐ Continuous ☒ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

gpd ☐ Continuous ☒ Intermittent**20.4** Pretreatment Standards. Indicate whether the SIU is subject to the following:a. Local Limits ☐ Yes ☐ Nob. Categorical Pretreatment Standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

Metal Finishing 40 cfr part 33

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?☐ Yes ☒ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

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PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION**19.1** Does the treatment works have, or is it subject to, an approved pretreatment program?☒ Yes ☐ No**19.2** Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:Number of non-categorical SIUs 1Number of CIUs 3**20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION**

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME

Reyco-Granning

MAILING ADDRESS

1205 E. Industrial Park Dr.

CITY

Mt. Vernon

STATE

Mo

ZIP CODE

65712

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge
Manufacture of heavy duty suspensions**20.2** Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): Manufacture of heavy duty suspensions

Raw Material(s): Sheet steel, bar stock and casting

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

gpd ☐ Continuous ☒ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

gpd ☐ Continuous ☒ Intermittent**20.4** Pretreatment Standards. Indicate whether the SIU is subject to the following:a. Local Limits ☐ Yes ☐ Nob. Categorical Pretreatment Standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

Metal Finishing 40 cfr part 33

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?☐ Yes ☒ No

If Yes, describe each episode

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PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION

19.1 Does the treatment works have, or is it subject to, an approved pretreatment program?
☒ Yes ☐ No

19.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:

Number of non-categorical SIUs 1Number of CIUs 3**20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION**

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME
Continental Manufacturing

MAILING ADDRESS 561 State Dr.	CITY Mt. Vernon	STATE Mo	ZIP CODE 65712
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20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge
Manufacture of conveyors & conveying systems

20.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): metal fabrication, painting and assembly

Raw Material(s): Plain mild steel

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.
gpd ☐ Continuous ☒ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.
gpd ☐ Continuous ☒ Intermittent

20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:a. Local Limits ☐ Yes ☐ Nob. Categorical Pretreatment Standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

Metal Finishing 40 cfr part 33

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☒ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL		
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PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES		
21. RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE		
21.1 Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
21.2 Method by which RCRA waste is received. (Check all that apply) <input type="checkbox"/> Truck <input type="checkbox"/> Rail <input type="checkbox"/> Dedicated Pipe		
21.3 Waste Description		
EPA Hazardous Waste Number	Amount (volume or mass)	Units
22. CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER		
22.1 Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Provide a list of sites and the requested information for each current and future site.		
22.2 Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years). 		
22.3 List the hazardous constituents that are received (or are expected to be received). Included data on volume and concentration, if known. (Attach additional sheets if necessary) 		
22.4 Waste Treatment a. Is this waste treated (or will it be treated) prior to entering the treatment works? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, describe the treatment (provide information about the removal efficiency): b. Is the discharge (or will the discharge be) continuous or intermittent? <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent If intermittent, describe the discharge schedule: 		
END OF PART F		
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.		

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL																						
FACILITY NAME City of Mt. Vernon	PERMIT NO. MO- 0022381	OUTFALL NO.																				
PART G – COMBINED SEWER SYSTEMS																						
Refer to the APPLICATION OVERVIEW to determine whether Part G applies to the treatment works.																						
23. GENERAL INFORMATION																						
23.1 System Map. Provide a map indicating the following: (May be included with basic application information.) <ul style="list-style-type: none"> A. All CSO Discharges. B. Sensitive Use Areas Potentially Affected by CSOs. (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems and Outstanding Natural Resource Waters.) C. Waters that Support Threatened and Endangered Species Potentially Affected by CSOs. 																						
23.2 System Diagram. Provide a diagram, either in the map provided above or on a separate drawing, of the Combined Sewer Collection System that includes the following information: <ul style="list-style-type: none"> A. Locations of Major Sewer Trunk Lines, Both Combined and Separate Sanitary. B. Locations of Points where Separate Sanitary Sewers Feed into the Combined Sewer System. C. Locations of In-Line or Off-Line Storage Structures. D. Locations of Flow-Regulating Devices. E. Locations of Pump Stations. 																						
23.3 Percent of collection system that is combined sewer																						
23.4 Population served by combined sewer collection system																						
23.5 Name of any satellite community with combined sewer collection system																						
24. CSO OUTFALLS. COMPLETE THE FOLLOWING ONCE FOR EACH CSO DISCHARGE POINT																						
24.1 Description of Outfall <ul style="list-style-type: none"> a. Outfall Number b. Location c. Distance from Shore (if applicable) _____ ft d. Depth Below Surface (if applicable) _____ ft e. Which of the following were monitored during the last year for this CSO? <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <input type="checkbox"/> Rainfall <input type="checkbox"/> CSO Pollutant Concentrations <input type="checkbox"/> CSO </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <input type="checkbox"/> CSO Flow Volume <input type="checkbox"/> Receiving Water Quality </div> f. How many storm events were monitored last year? 																						
24.2 CSO Events <table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">a. Give the Number of CSO Events in the Last Year</td> <td style="width: 10%;">Events</td> <td style="width: 10%;"><input type="checkbox"/> Actual</td> <td style="width: 10%;"><input type="checkbox"/> Approximate</td> <td style="width: 30%;"></td> </tr> <tr> <td>b. Hours</td> <td></td> <td><input type="checkbox"/> Actual</td> <td><input type="checkbox"/> Approximate</td> <td>Give the Average Duration Per CSO Event</td> </tr> <tr> <td>c. Million Gallons</td> <td></td> <td><input type="checkbox"/> Actual</td> <td><input type="checkbox"/> Approximate</td> <td>Give the Average Volume Per CSO Event</td> </tr> <tr> <td>d. Give the minimum rainfall that caused a CSO event in the last year</td> <td>_____ inches of rainfall</td> <td></td> <td></td> <td></td> </tr> </table>			a. Give the Number of CSO Events in the Last Year	Events	<input type="checkbox"/> Actual	<input type="checkbox"/> Approximate		b. Hours		<input type="checkbox"/> Actual	<input type="checkbox"/> Approximate	Give the Average Duration Per CSO Event	c. Million Gallons		<input type="checkbox"/> Actual	<input type="checkbox"/> Approximate	Give the Average Volume Per CSO Event	d. Give the minimum rainfall that caused a CSO event in the last year	_____ inches of rainfall			
a. Give the Number of CSO Events in the Last Year	Events	<input type="checkbox"/> Actual	<input type="checkbox"/> Approximate																			
b. Hours		<input type="checkbox"/> Actual	<input type="checkbox"/> Approximate	Give the Average Duration Per CSO Event																		
c. Million Gallons		<input type="checkbox"/> Actual	<input type="checkbox"/> Approximate	Give the Average Volume Per CSO Event																		
d. Give the minimum rainfall that caused a CSO event in the last year	_____ inches of rainfall																					
24.3 Description of Receiving Waters <ul style="list-style-type: none"> a. Name of Receiving Water b. Name of Watershed/River/Stream System c. U.S. Soil Conservation Service 14-Digit Watershed Code (If Known) d. Name of State Management/River Basin e. U.S. Geological Survey 8- Digit Hydrologic Cataloging Unit Code (If Known) 																						
24.4 CSO Operations Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shellfish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable state water quality standard.)																						
END OF PART G																						
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.																						

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND
HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY, Form 780-1805
(Facilities less than or equal to 100,000 gallons per day of domestic waste must use Form B, 780-1512.)

PART A – BASIC APPLICATION INFORMATION

1. Check the appropriate box. **Do not check more than one item.** Operating permits refer to permits issued by the Department of Natural Resources, Water Protection Program. If an Antidegradation Review has not been conducted, submit the application located at the following link, to the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102: dnr.mo.gov/forms/780-1893-f.pdf.
- 1.1 **Fees Information:**
 - DOMESTIC OPERATING PERMIT FEES – PRIVATE**

Annual operating permit fees are based on flow.

Annual fee/Design flow	Annual fee/Design flow	Annual fee/Design flow
\$150..... <5,000 gpd	\$1,000..... 15,000-24,999 gpd	\$4,000..... 100,000-249,999 gpd
\$300..... 5,000-9,999 gpd	\$1,500..... 25,000-29,999 gpd	\$5,000..... ≥250,000 gpd
\$600..... 10,000-14,999 gpd	\$3,000..... 30,000-99,999 gpd	

New domestic wastewater treatment facilities must submit the annual fee with the original application.

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of two percent per month are charged and added to outstanding annual fees.

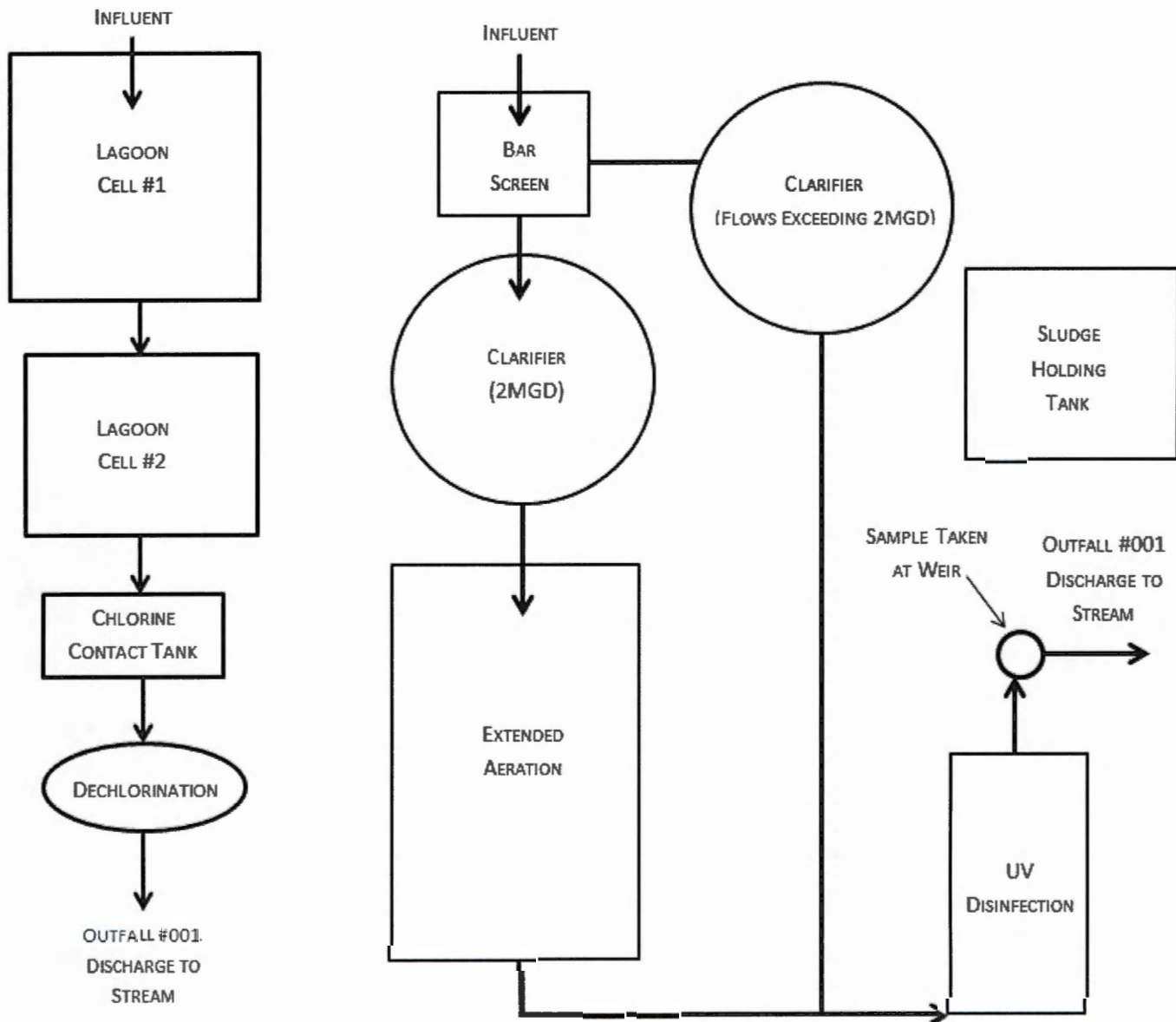
PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (City, public sewer district, public water district, or other publicly owned treatment works) Annual fee is based on number of service connections. Fees listings are found in 10 CSR 20-6.011 which is available at <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>. New public sewer system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

 - a. Publicly Owned Treatment Works (POTWs) - \$200 each.
 - b. Non-POTWs – \$100 each for a minor modification (name changes, address changes, other non-substantive changes) or a fee equal to 25 percent of the facility's annual operating fee for a major modification.
2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.
- 2.1 Self-explanatory.
- 2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at www.dnr.mo.gov/internetmapviewer/.
- 2.3-2.4 Self-explanatory.
3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner.
- 3.1 Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 15 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice.
- 3.2-3.4 Self-explanatory.
4. Continuing Authority – Provide information for the permanent organization which will serve as the continuing authority for the operation, maintenance, and modernization of the facility. The regulatory requirement regarding continuing authority is available at <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf> or contact the Department of Natural Resources Water Protection Program (see contact information below).
5. Operator – Provide the name, certificate number, title, mailing address, phone number, and email address of the operator of the facility.
6. Provide the name, title, mailing address, work phone number, and email address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.

7.1 Process Flow Diagram Examples

WASTEWATER TREATMENT LAGOON WASTEWATER TREATMENT FACILITY



- 7.2 A topographic map is available on the web at www.dnr.mo.gov/internetmapviewer/ or from the Department of Natural Resources' Geological Survey in Rolla at 573-368-2125.
- 7.3 For Standard Industrial Codes visit www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System, visit www.census.gov/naics or contact the Department of Natural Resources' Water Protection Program.
- 7.4-7.8 Self-explanatory.
- 7.9 If wastewater is land-applied submit form I: www.dnr.mo.gov/forms/780-1686-f.pdf.
- 7.10-8. Self-explanatory
- 9.1 A copy of 10 CSR 25 is available at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25.
- 9.2-9.9 Self-explanatory.

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND
HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY
(continued)

PART B – ADDITIONAL APPLICATION INFORMATION

10.-14. Self-explanatory

PART C – CERTIFICATION

15. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at <http://dnr.mo.gov/env/wpp/edmr.htm> and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package.

Waivers to electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:

- a. members of religious communities that choose not to use certain technologies or
 - b. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: <http://www.broadbandmap.gov/>. Please contact the Department if you need assistance.
16. Signature – All applications must be signed as follows and the signatures must be original:
- a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
 - b. For a partnership or sole proprietorship, by a general partner or the proprietor.
 - c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

PART D – EXPANDED EFFLUENT TESTING DATA

17. Self-explanatory. ML/MDL means minimum limit or minimum detection limit.

PART E – TOXICITY TESTING DATA

18. Self-explanatory.

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

19. Federal regulations are available through the U.S. Government Printing Office at <https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>.

19.1 Self-explanatory

- 19.2 A noncategorical significant industrial user is an industrial user that is not a CIU and meets one or more of the following:
- i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
 - ii. Contributes a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
 - iii. Is designated as an SIU by the control authority.

20.-22.4 Self-explanatory.

PART G – COMBINED SEWER SYSTEMS

23.-24.4 Self-explanatory.

Submittal of an incomplete application may result in the application being returned.

This completed form and any attachments along with the applicable permit fees, should be submitted to:

Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

Map of regional offices with addresses and phone numbers are available on the web at <http://dnr.mo.gov/regions/>. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.

OCT 16 2017



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FINANCIAL QUESTIONNAIRE

Water Protection Program

NOTE ►

FINANCIAL INFORMATION THAT IS NOT PROVIDED THROUGH THIS FORM WILL BE OBTAINED BY THE DEPARTMENT FROM READILY AVAILABLE SOURCES.

1. GENERAL INFORMATION

FACILITY NAME Mt. Vernon Wastewater Treatment Plan	PERMIT NUMBER #MO- 0022381
CITY Mt. Vernon, Mo 65712	COUNTY Lawrence
<input checked="" type="checkbox"/> PERMIT RENEWAL/MODIFICATION <input type="checkbox"/> STATE REVOLVING FUND APPLICATION	SRF PROJECT NUMBER (IF APPLICABLE) C295

2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES)

2.1 Number of connections to the facility: Residential <u>1541</u> Commercial <u>267</u> Industrial <u>16</u>	
2.2 Current sewer user rate: Based on a 5,000 gallon per month usage \$ <u>38.72</u>	The sewer user rate is (check one): <input checked="" type="checkbox"/> Rate Capacity (set rate) <input type="checkbox"/> Pay as You Go
2.3 Current operating costs for the facility (excludes depreciation):	\$ 419,848
2.4 Bond Rating (if applicable):	N/A
2.5 Bonding Capacity: <i>General obligation bond capacity allowed by constitution: cities=up to 20% of taxable tangible property; sewer districts=up to 5% of taxable tangible property</i>	\$ 10,675,010
2.6 Current outstanding debt relating to wastewater collection and treatment: <i>Debt information is typically available from your community's annual financial statements</i>	\$ 5,111,162
2.7 Amount of current user rate per household per month used toward payments on wastewater debt:	\$ 26.58
2.8 Net direct debt: <i>Net direct debt is the total amount of outstanding general obligation debt, including notes and short-term financing.</i>	N/A
2.9 Overlapping debt: <i>Overlapping debt is the financial obligations of one political jurisdiction that also falls partly on a nearby jurisdiction.</i>	N/A
2.10 Overall net debt: <i>Overall net debt is defined as debt repaid by property taxes within a utility/municipality's service area. It excludes debt that is repaid by special user fees (e.g. revenue bonds). Overall net debt = Net direct debt + Overlapping debt. Debt information is typically available from your community's annual financial statements</i>	N/A
2.11 Attach any relevant financial statements.	

3. FINANCIAL INFORMATION SPECIFIC TO MUNICIPALITIES

3.1 Municipality's Full Market Property Value (FMPV): <i>FMPV data is typically available through your community or state assessor's office</i>	\$ 53,375,053
3.2 Municipality's property tax revenues: <i>Property tax revenues are typically available from your community's annual financial statements</i>	\$ 0.00
3.3 Municipality's property tax collection rate: <i>To determine the collection rate, you will need to divide property tax revenues by the property taxes levied. To calculate property taxes levied, multiply the assessed value of real property within your community/service area by the property tax rate. This information is typically available through your community or state assessor's office. Property tax revenues are typically available in your community's annual financial statements.</i>	\$ 0.00

4. FINANCIAL INFORMATION SPECIFIC TO SEWER DISTRICTS

4.1 Total connections to the sewer district: Residential N/A Commercial N/A Industrial N/A

4.2 When facilities require upgrades, how are the costs divided? Will the homes connected to the upgraded facility bear the costs? Will the costs be divided across the sewer district?

N/A

5. OTHER CONSIDERATIONS (ALL FACILITIES)

5.1 Provide a list of major infrastructure or other investments in environmental projects. Include project timing and costs and indicate any possible overlap or complications (attach sheets as necessary):

5.2 Provide a list of any other relevant local community economic conditions that may impact the ability to afford new permit requirements or the proposed SRF project. (See Community Supplemental Survey on the following page):

6. CERTIFICATION

FINANCIAL CONTACT

Shari Weldy

OFFICIAL TITLE

City Treasurer

EMAIL ADDRESS

sweldy@mtvernon-cityhall.org

TELEPHONE NUMBER WITH AREA CODE

(417) 466-2122

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

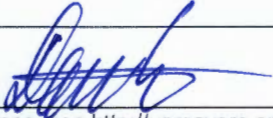
OWNER OR AUTHORIZED REPRESENTATIVE

David W. Eden

OFFICIAL TITLE

Mayor

SIGNATURE



DATE SIGNED

10/11/2017

For additional guidance, see <http://usmayors.org/urbanwater/media/2013/0529-report-WaterAffordability.pdf>.

For more information regarding your Missouri State Operating Permit, contact the department's Water Protection Program at 573-751-1300, to speak with a permit writer in the domestic wastewater unit.

For more information regarding your State Revolving Fund Application, contact the department's Water Protection Program at 573-751-1300, to speak with a project coordinator in the Financial Assistance Center.

This completed form and any attachments should be submitted to one of the following:

For Submittal of Permit Renewal/Modification:

Department of Natural Resources
Water Protection Program
ATTN: NPDES Operating Permits Section
P.O. Box 176
Jefferson City, MO 65102

For Submittal of SRF Applications:

Department of Natural Resources
Water Protection Program
ATTN: Financial Assistance Center
P.O. Box 176
Jefferson City, MO 65102



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
Community Supplemental Survey

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OCT 16 2017

Water Protection Program

PLEASE ANSWER THE FOLLOWING APPLICABLE QUESTIONS. (ATTACH ADDITIONAL SHEETS AS NECESSARY)

1. Are there any significant transportation corridors within 20 miles of your community?
If yes, please explain. (Example: major interstate, railroad center)

Interstate I-44

2. Are there any significant manufacturing or employment centers within 20 miles of your community?
If yes, please explain. (Example: commercial farming, manufacturing, government operation, big box store)

3. Where do the majority of children in your community receive their education?
(Please check appropriate box for each education level)

Elementary	<input checked="" type="checkbox"/> Within your community	<input type="checkbox"/> Within 20 miles	<input type="checkbox"/> Farther than 20 miles
Middle School	<input checked="" type="checkbox"/> Within your community	<input type="checkbox"/> Within 20 miles	<input type="checkbox"/> Farther than 20 miles
High School	<input checked="" type="checkbox"/> Within your community	<input type="checkbox"/> Within 20 miles	<input type="checkbox"/> Farther than 20 miles

4. Considering your community's tax base, debt level, ability to bond capital improvement projects, or repay loans, how likely is it that your community could afford to pay for the following:

	Very Unlikely	Unlikely	Likely	Very Likely
4.1 An upgrade or replacements to your wastewater system costing \$50,000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.2 An upgrade or replacements to your wastewater system costing \$250,000	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.3 An upgrade or replacements to your wastewater system costing \$1 million	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Which of the following best describes anticipated population change for your community over the next ten years?

☐ Significant Decrease ☐ Decrease ☒ Remain the Same ☐ Increase ☐ Significant Increase

6. Check the appropriate boxes in the following statements as it relates to the population change you predicted in questions 5.

- 6.1 Over the past 20 years the population has:

☐ Significantly Decreased ☐ Decreased ☐ Remained the Same ☒ Increased ☐ Significantly Increased

- 6.2 The majority of the population in the community is retired or is near retirement.

☐ Definitely False ☒ Probably False ☐ Probably True ☐ True ☐ Unknown

- 6.3 The majority of young people leave the community in search of employment or education elsewhere.

☐ Definitely False ☐ Probably False ☒ Probably True ☐ True ☐ Unknown

- 6.4 In the foreseeable future, the employment opportunity in or around the community will:

☐ Significantly Decrease ☐ Decrease ☒ Remain the Same ☐ Increase ☐ Significantly Increase

- 6.5 In the foreseeable future the economic activity in or around the community will:

☐ Significantly Decrease ☐ Decrease ☒ Remain the Same ☐ Increase ☐ Significantly Increase

- 6.6 In the foreseeable future the tax base of the community will:

☐ Significantly Decrease ☐ Decrease ☒ Remain the Same ☐ Increase ☐ Significantly Increase

- 6.7 It is _____ for the community to meet its debt obligations.

☐ Difficult ☐ Somewhat Difficult ☐ Somewhat Easy ☒ Easy ☐ No Debt

7. What other issues or information should be considered when determining population stability or the financial ability for your community to pay for significant capital investments? Attach sheets as necessary.
(Example: Seasonal population changes, natural resources (lakes, rivers), age of infrastructure, significant employment changes, etc.)

Significant employment, Commercial growth to promote sales tax revenue.

8. Should an existing or proposed regional wastewater district be willing to connect, own, or operate your current facility, how likely would you be to consider this as an option?

Very Unlikely	Unlikely	Likely	Very Likely
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CITY OF MT. VERNON, MISSOURI
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION – PROPRIETARY
FUNDS
Year Ended December 31, 2016

	Enterprise Funds			
	Electric Fund	Water Fund	Sewer Fund	Total
OPERATING REVENUES				
Charges for services	\$ 7,544,964	\$ 952,975	\$ 1,081,072	\$ 9,579,011
Miscellaneous	<u>2,550</u>	<u>2,525</u>	<u>4,746</u>	<u>9,821</u>
TOTAL OPERATING REVENUES	7,547,514	955,500	1,085,818	9,588,832
OPERATING EXPENSES				
Salaries and wages	210,275	119,827	-	330,102
Employee benefits	76,054	60,205	-	136,259
Gas and oil	4,255	5,662	1,133	11,050
Materials and supplies	259	31,425	10,929	42,613
Insurance	31,574	21,109	13,994	66,677
Power purchased	5,143,120	-	-	5,143,120
Telephone and utilities	4,121	3,737	2,346	10,204
Repairs and maintenance	169,571	129,335	80,648	379,554
Professional fees	4,464	4,298	161,672	170,434
Other expenses	12,571	7,286	-	19,857
Depreciation	250,974	218,153	350,131	819,258
Administrative	<u>136,970</u>	<u>119,300</u>	<u>149,126</u>	<u>405,396</u>
TOTAL OPERATING EXPENSES	6,044,208	720,337	769,979	7,534,524
OPERATING INCOME	1,503,306	235,163	315,839	2,054,308
NONOPERATING REVENUES (EXPENSES)				
Interest income	20,719	5,305	189,746	215,770
Interest expense	(121,893)	(203,527)	(305,221)	(630,641)
Intergovernmental revenue	-	-	48,272	48,272
Debt issuance costs	<u>(28,322)</u>	<u>(72,828)</u>	<u>-</u>	<u>(101,150)</u>
TOTAL NONOPERATING REVENUES (EXPENSES)	<u>(129,496)</u>	<u>(271,050)</u>	<u>(67,203)</u>	<u>(467,749)</u>
INCOME (LOSS) BEFORE OPERATING TRANSFERS	1,373,810	(35,887)	248,636	1,586,559
OPERATING TRANSFERS IN (OUT)	<u>(948,986)</u>	<u>371,586</u>	<u>-</u>	<u>(577,400)</u>
NET INCOME	424,824	335,699	248,636	1,009,159
NET POSITION, January 1	<u>8,895,172</u>	<u>881,844</u>	<u>3,332,232</u>	<u>13,109,248</u>
NET POSITION, December 31	<u>\$ 9,319,996</u>	<u>\$ 1,217,543</u>	<u>\$ 3,580,868</u>	<u>\$ 14,118,407</u>

See accompanying notes.

ITY OF MT. VERNON, MISSOURI
STATEMENT OF CASH FLOWS – PROPRIETARY FUNDS
Year Ended December 31, 2016

	Enterprise Funds			
	Electric Fund	Water Fund	Sewer Fund	Total
CASH FLOWS FROM OPERATING ACTIVITIES				
Cash received from customers	\$ 7,601,408	\$ 945,977	\$ 1,072,546	\$ 9,619,931
Cash paid to suppliers	(5,517,721)	(443,342)	(419,848)	(6,380,911)
Cash paid to employees	(266,014)	(166,100)	-	(432,114)
NET CASH PROVIDED BY OPERATING ACTIVITIES	1,817,673	336,535	652,698	2,806,906
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES				
Loans from other funds	-	120,869	-	120,869
Operating transfer in (out)	(948,986)	371,586	-	(577,400)
NET CASH PROVIDED (USED) BY NONCAPITAL FINANCING ACTIVITIES	(948,986)	492,455	-	(456,531)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES				
Grant proceeds	-	-	48,272	48,272
Certificates of participation proceeds	817,250	2,072,750	-	2,890,000
Acquisition and construction of capital assets	(205,115)	(22,587)	(11,250)	(238,952)
Payment of debt issue costs	(28,322)	(72,828)	-	(101,150)
Payment of bond principal	-	-	(322,325)	(322,325)
Payment of certificates of participation principal	(1,230,000)	(2,425,000)	-	(3,655,000)
Payment of capital lease principal	(3,297)	(3,297)	(6,594)	(13,188)
Payment of loan principal	-	(22,484)	-	(22,484)
Payment of interest expense	(128,145)	(233,917)	(312,940)	(675,002)
NET CASH (USED) BY CAPITAL AND RELATED FINANCING ACTIVITIES	(777,629)	(707,363)	(604,837)	(2,089,829)
CASH FLOWS FROM INVESTING ACTIVITIES				
Interest received	20,719	5,305	189,746	215,770
Purchase of investments	(14,013)	(1,512)	-	(15,525)
NET CASH PROVIDED BY INVESTING ACTIVITIES	6,706	3,793	189,746	200,245
NET INCREASE IN CASH AND CASH EQUIVALENTS	97,764	125,420	237,607	460,791
CASH AND CASH EQUIVALENTS, Beginning of year	3,540,601	1,838,521	1,207,755	6,586,877
CASH AND CASH EQUIVALENTS, End of year	3,638,365	1,963,941	1,445,362	7,047,668
LESS RESTRICTED CASH AND CASH EQUIVALENTS	169,903	524,482	609,001	1,303,386
UNRESTRICTED CASH AND CASH EQUIVALENTS	\$ 3,468,462	\$ 1,439,459	\$ 836,361	\$ 5,744,282

See accompanying notes.

CITY OF MT. VERNON, MISSOURI
NOTES TO FINANCIAL STATEMENTS
December 31, 2016

NOTE G – LONG-TERM DEBT – BUSINESS-TYPE ACTIVITIES (continued)

Sewer Fund

2008 Combined Waterworks and Sewerage System Revenue Bonds

During 2008, the City issued \$5,715,000 in Combined Waterworks and Sewerage System Revenue Bonds. The bonds bear interest at 4.00% to 5.75%. Interest payments are due semi-annually on July 1 and January 1 of each year with principal payments due January 1 of each year. Annual debt service requirements to amortize the principal on the 2008 revenue bonds outstanding at December 31, 2016, are as follows:

Year Ended December 31,	Principal	Interest	Total
2017	\$ 325,000	\$ 256,763	\$ 581,763
2018	335,000	240,263	575,263
2019	350,000	222,700	572,700
2020	345,000	204,672	549,672
2021	350,000	186,469	536,469
2022	360,000	167,206	527,206
2023	370,000	147,131	517,131
2024	375,000	126,456	501,456
2025	385,000	105,128	490,128
2026	395,000	82,944	477,944
2027	405,000	59,944	464,944
2028	415,000	36,369	451,369
2029	425,000	12,219	437,219
	<u>\$ 4,835,000</u>	<u>\$ 1,848,264</u>	<u>\$ 6,683,264</u>

CITY OF MT. VERNON, MISSOURI
NOTES TO FINANCIAL STATEMENTS
December 31, 2016

NOTE G – LONG-TERM DEBT – BUSINESS-TYPE ACTIVITIES (continued)

The following table is a summary of the changes in the Long-Term Debt – Business-Type Activities:

	Balance December 31, 2015	Additions	Retirements	Balance December 31, 2016	Amounts Due Within One Year
ELECTRIC FUND					
Compensated Absences	\$ 10,594	\$ -	\$ 1,254	\$ 9,340	\$ -
Capital Lease Payable	13,846	-	3,297	10,549	3,404
Certificates of Participation					
Series 2008	1,230,000	-	1,230,000	-	-
Series 2014	115,875	-	-	115,875	-
Series 2016	-	817,250	-	817,250	63,000
	<u>1,370,315</u>	<u>817,250</u>	<u>1,234,551</u>	<u>953,014</u>	<u>66,404</u>
SEWER FUND					
Capital Lease Payable	27,692	-	6,594	21,098	6,810
Certificates of Participation					
Series 2014	285,825	-	-	285,825	-
Revenue Bonds					
Series 2008	<u>5,160,000</u>	<u>-</u>	<u>325,000</u>	<u>4,835,000</u>	<u>325,000</u>
	<u>5,473,517</u>	<u>-</u>	<u>331,594</u>	<u>5,141,923</u>	<u>331,810</u>
Unamortized bond discount on 2008 bonds	<u>(33,436)</u>	<u>-</u>	<u>(2,675)</u>	<u>(30,761)</u>	<u>-</u>
	<u>5,440,081</u>	<u>-</u>	<u>328,919</u>	<u>5,111,162</u>	<u>331,810</u>
WATER FUND					
Compensated Absences	10,693	-	2,465	8,228	-
Capital Lease Payable	13,846	-	3,297	10,549	3,404
Certificates of Participation					
Series 2005	2,960,000	-	340,000	2,620,000	360,000
Series 2011	2,085,000	-	2,085,000	-	-
Series 2014	216,300	-	-	216,300	-
Series 2016	-	2,072,750	-	2,072,750	162,000
	<u>5,285,839</u>	<u>2,072,750</u>	<u>2,430,762</u>	<u>4,927,827</u>	<u>525,404</u>
Loan Payable	<u>22,484</u>	<u>-</u>	<u>22,484</u>	<u>-</u>	<u>-</u>
	<u>5,308,323</u>	<u>2,072,750</u>	<u>2,453,246</u>	<u>4,927,827</u>	<u>525,404</u>
TOTAL	<u>\$ 12,118,719</u>	<u>\$ 2,890,000</u>	<u>\$ 4,016,716</u>	<u>\$ 10,992,003</u>	<u>\$ 923,618</u>

City of Mount Vernon



P.O. Box 70 • 319 East Dallas • Phone 417/466/2122 • Mount Vernon, Mo. 65712

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OCT 16 2017

Water Protection Program

October 11, 2017

Mount Vernon Wastewater Treatment Facility
Permit Number Mo-0022381

City of Mount Vernon
319 East Dallas
Mount Vernon Mo. 65712

To: Missouri Department of Natural Resources
Water Protection Program
NPDES Permits & Engineering Sections
P.O. Box 176
Jefferson City, MO 65102-0176

This cover letter is addressing the Form B-2, Part D portion of the City's permit renewal application. The City has undergone and is continuing to replace and repair aging equipment in its facility, as part of an Operations and Maintenance Plan begun in 2016. The facility has also undergone changes in operating procedures as part of the pre-treatment program currently being implemented. During this period, the City feels the expanded effluent testing results would not have reflected the facilities treatment under normal operation. In a phone conversation, between Mr. Shawn Massey of the DNR Permitting Department and the City's wastewater operator, the City was advised to submit their plan to complete the required testing and submit those results to the DNR. At this time, the City's plan is to sample in November and December of 2017 and January of 2018 and forward those results to the DNR, as these results become available. Should the DNR prefer an alternative to this plan, please notify the City and the City will comply with any changes requested.

Respectfully Yours,

Gene Stanton
Director of Public Works
(417) 466-2122
gstanton@mtvernon-cityhall.org

OCT 16 2017



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

Water Protection Program

**FORM B2 – APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT
RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN
100,000 GALLONS PER DAY**

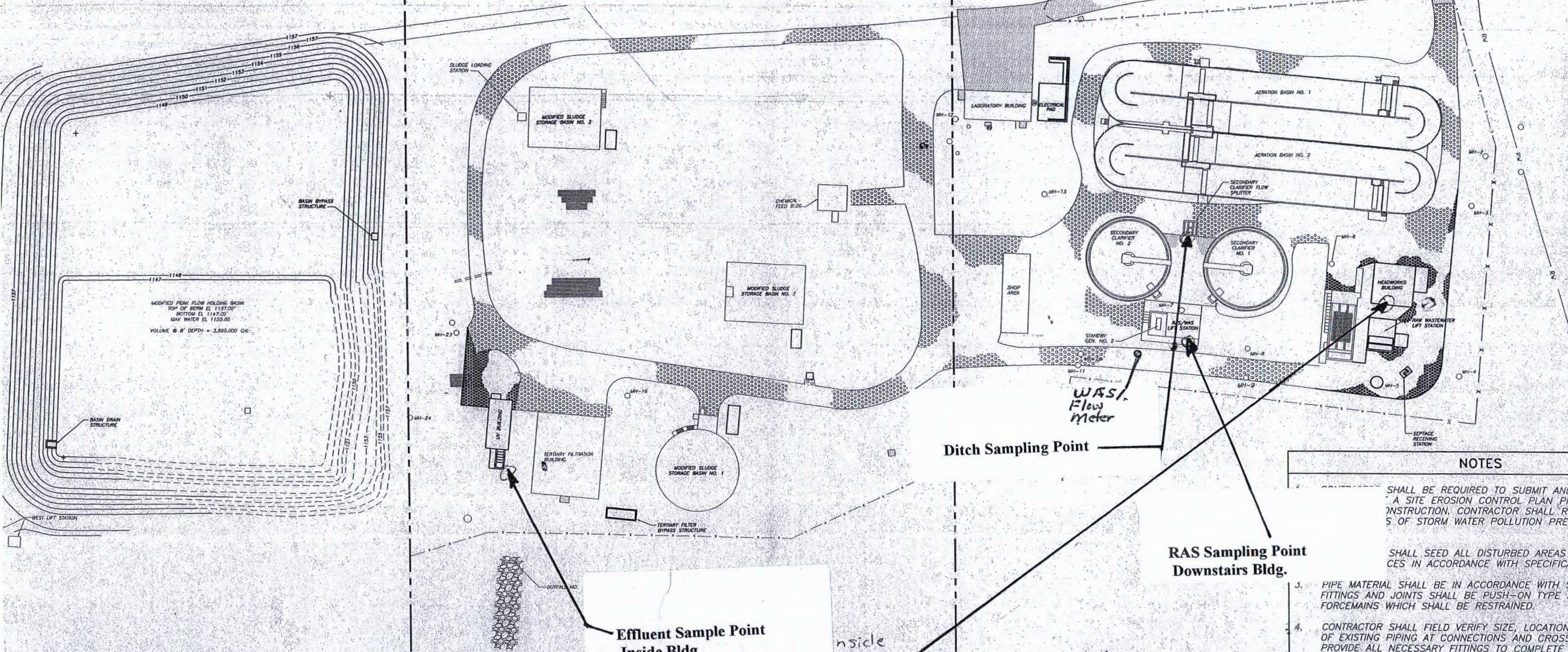
FACILITY NAME Mt. Vernon Wastewater Treatment Plant	
PERMIT NO. MO-0022381	COUNTY Lawrence
APPLICATION OVERVIEW	
Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following items explain which parts of Form B2 you must complete. Submittal of an incomplete application may result in the application being returned.	
BASIC APPLICATION INFORMATION	
<p>A. Basic application information for all applicants. All applicants must complete Part A.</p> <p>B. Additional application information for all applicants. All applicants must complete Part B.</p> <p>C. Certification. All applicants must complete Part C.</p>	
SUPPLEMENTAL APPLICATION INFORMATION	
<p>D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete <i>Part D - Expanded Effluent Testing Data</i>:</p> <ol style="list-style-type: none"> Has a design flow rate greater than or equal to 1 million gallons per day. Is required to have or currently has a pretreatment program. Is otherwise required by the permitting authority to provide the information. <p>E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete <i>Part E - Toxicity Testing Data</i>:</p> <ol style="list-style-type: none"> Has a design flow rate greater than or equal to 1 million gallons per day. Is required to have or currently has a pretreatment program. Is otherwise required by the permitting authority to provide the information. <p>F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SIUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete <i>Part F - Industrial User Discharges and Resource Conservation and Recovery Act /CERCLA Wastes</i>.</p> <p>SIUs are defined as:</p> <ol style="list-style-type: none"> All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N. Any other industrial user that meets one or more of the following: <ol style="list-style-type: none"> Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions). Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant. Is designated as an SIU by the control authority. Is otherwise required by the permitting authority to provide the information. <p>G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete <i>Part G - Combined Sewer Systems</i>.</p>	
ALL APPLICANTS MUST COMPLETE PARTS A, B and C	

T STATION	342540.46	2985116.36	SE CORNER STRUCTURE
	342619.41	2985103.94	NW CORNER BLDG WALL
	342585.34	2985131.52	SE CORNER BLDG WALL
CTION BUILDING	342514.92	2984436.40	NW CORNER BLDG WALL
CTION BUILDING	342475.51	2984449.83	SE CORNER BLDG WALL
ASS STRUCTURE	342431.84	2984523.23	NW CORNER STRUCTURE
ASS STRUCTURE	342421.44	2984545.37	SE CORNER STRUCTURE
	342549.29	2984923.52	CENTER OF STRUCTURE

MATCHLINE -- SEE DWG. SP
MATCHLINE -- SEE DWG. SP

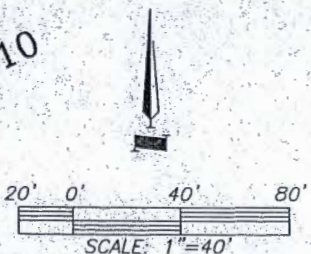
Mt. Vernon WWTP

MATCHLINE -- SEE DWG. SP
MATCHLINE -- SEE DWG. SP



- NOTES**
- SHALL BE REQUIRED TO SUBMIT AND A SITE EROSION CONTROL PLAN PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REVIEW AND OBTAIN APPROVAL OF STORM WATER POLLUTION PREVENTION MEASURES IN ACCORDANCE WITH SPECIFICATIONS.
 - PIPE MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATIONS. FITTINGS AND JOINTS SHALL BE PUSH-ON TYPE EXCEPT FOR FORCEMAINS WHICH SHALL BE RESTRAINED.
 - CONTRACTOR SHALL FIELD VERIFY SIZE, LOCATION, AND DEPTH OF EXISTING PIPING AT CONNECTIONS AND CROSSINGS. PROVIDE ALL NECESSARY FITTINGS TO COMPLETE CONNECTIONS AS REQUIRED.
 - ALL PIPING SHALL HAVE MINIMUM 36" COVER UNLESS OTHERWISE INDICATED.
 - CONTRACTOR SHALL FIELD VERIFY UNDERGROUND UTILITIES AT CROSSINGS SHOWN.
 - SEE APPROPRIATE FACILITY STRUCTURE DRAWING FOR COORDINATE LOCATIONS ON ALL NEW STRUCTURES.
 - VALVES NOT SHOWN THIS DRAWING ARE INDICATED ON FACILITY PROCESS DRAWINGS.

"AS-BUILT"
August 6, 2010



DESIGNED BY	DRAWN BY	CHECKED BY	DATE	BY	DESCRIPTION
			02/14/08	BJC	ISSUED FOR CLIENT REVIEW - 30% COMPLETE
			03/06/08	BJC	ISSUED FOR CLIENT REVIEW - 70% COMPLETE
			07/12/08	BJC	ISSUED FOR MDNR REVIEW
			10/24/08	BJC	ISSUED FOR BID

E.T. ARCHER CORPORATION D.B.A.

Archer

TOTAL PROJECT MANAGEMENT

OTHER OFFICE LOCATIONS

8340 MISSION ROAD, SUITE 240, PRAIRIE VILLAGE, KS 66208 • 913-852-6757 • FAX 816-347-1399

187 E. DAVID, P.O. BOX 989, FORSYTH, MO 65653 • 417-546-3218 • FAX 417-546-5324

8000 BROWNSBORO PARK BLVD, LOUISVILLE, KY 40207 • 502-896-1784 • FAX 502-896-1785

1040 MAIN STREET, OSAGE BEACH, MO 65055 • 573-348-3222 • FAX 573-348-3499

CITY OF MOUNT VERNON, MISSOURI

MT. VERNON WASTEWATER TREATMENT PLANT