

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-0004391

Owner: Metropolitan St. Louis Sewer District (MSD), Missouri River WWTF
Address: 3455 Creve Coeur Mill Road, St. Louis, MO 63146

Continuing Authority: Same as above
Address: Same as above

Facility Name: MSD, Missouri River WWTF
Address: 3455 Creve Coeur Mill Road, St. Louis, MO 63146

Legal Description: Land Grant #03094, St. Louis County

Receiving Stream: See page two

First Classified Stream and ID: See page two

USGS Basin & Sub-watershed No.: See page two

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

FACILITY DESCRIPTION

Outfalls # 006, & 007 – POTW - SIC #4952- Certified “A” Operator Required

See page 2.

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

January 20, 2012
Effective Date

February 23, 2016
Revised Date


Sara Parker Pauley, Director, Department of Natural Resources

January 19, 2017
Expiration Date


John Madros, Director, Water Protection Program

FACILITY DESCRIPTION (continued)

Outfall #003 – (Discharge eliminated)

Emergency overflow basin.

Outfall #005 - Emergency overflow from the influent structure.

Emergency diversion from the influent structure. Discharge from this outfall shall be considered an unauthorized bypass pursuant to 40 CFR 122.41(m) and shall be reported, pursuant to 40 CFR 122.41(m) (3).

Legal Description:	Land Grant #03094, St. Louis County
UTM Coordinates:	X= 717889 / Y= 4291843
Receiving Stream:	Creve Coeur Creek (P) (01702)
First Classified Stream & ID:	Creve Coeur Creek (P) (01702)
USGS Basin and Subwatershed:	(10300200–0703)

Outfall #006 – Storm water

Storm water runoff. Water quality compliance is achieved through Best Management Practices (BMPs) as described the Storm Water Pollution Prevention Plan (SWPPP)

Legal Description:	Land Grant #03094, St. Louis County
UTM Coordinates:	X= 718143 / Y= 4290901
Receiving Stream:	Missouri River (P) (01604)
First Classified Stream & ID:	Missouri River (P) (01604)
USGS Basin and Subwatershed:	(10300200–0703)

Outfall #007 - POTW-SIC#4952

The plant consists of the headworks with coarse screens for the Bonfils influent line/ Six fine screens/ Four grit chambers/Pre-aeration basins and a wet-weather peak storage basin for flows over 80 MGD. The wet-weather storage basin does not discharge from Outfall #007, but stored waste water is pumped back to the pump station and into the plant. Next, primary and secondary treatment consisting of four primary clarifiers/ Six aeration tanks/ Six secondary (final) clarifiers/ UV disinfection; anaerobic digestion/sludge thickening/sludge dewatering/sludge disposal via hauling for land application; composting; incineration or landfill; odor control.

Design population equivalent is 380,000.
Design flow is 38 million gallons per day (MGD).
Actual flow is 29.1 million gallons per day.
Design sludge production is 7,840 dry tons/year.
Actual sludge production is 3,300 dry tons/year.

Legal Description:	Land Grant #03094, St. Louis County
UTM Coordinates:	X= 717587 / Y= 4291619
Receiving Stream:	Missouri River (P) (01604)
First Classified Stream & ID:	Missouri River (P) (01604)
USGS Basin and Subwatershed:	(10300200–0704)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 10	
					PERMIT NUMBER MO-0004391	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #006 – Storm water						
Flow	MGD	*		*	once/quarter*****	instantaneous estimate
Precipitation	Inches/day	*		*	once/quarter*****	total
Biochemical Oxygen Demand ₅	mg/L	*		*	once/quarter*****	grab
pH – Units	SU	*		*	once/quarter*****	grab
Oil & Grease	mg/L	*		*	once/quarter*****	grab
Settleable solids	mL/L/hr	*		*	once/quarter*****	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE NEXT REPORT IS DUE <u>April 28, 2016</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #007 – Main Outfall						
Flow	MGD	*		*	once/day	24 hr. total
Carbonaceous Biochemical Oxygen Demand*****	mg/L		40	25	once/weekday**	24 hr. comp.
Total Suspended Solids*****	mg/L		45	30	once/weekday**	24 hr. comp.
pH – Units	SU	***		***	once/weekday**	grab
Oil and Grease	mg/L	15		10	once/month	grab
Ammonia Nitrogen as N	mg/L	*		*	twice/week	grab
Esherichia coliform (E. coli) (Note 1)	#/100 ml		1030	206	once/week	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE NEXT REPORT IS DUE <u>April 28, 2016</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)					PAGE NUMBER 4 of 10
					PERMIT NUMBER MO-0004391
Cadmium, Total Recoverable	µg/L	*		*	once/quarter***** 24 hr. comp.
Chromium III, Total Recoverable	µg/L	*		*	once/quarter***** 24 hr. comp.
Chromium VI, Dissolved	µg/L	*		*	once/quarter***** grab
Lead, Total Recoverable	µg/L	*		*	once/quarter***** 24 hr. comp.
Chemical Oxygen Demand	mg/L	*		*	once/quarter***** 24 hr. comp.
Total Phosphorus as P	mg/L	*		*	once/quarter***** 24 hr. comp.
Nitrite & Nitrate	mg/L	*		*	once/quarter***** 24 hr. comp.
Total Nitrogen as N	mg/L	*		*	once/quarter***** 24 hr. comp.
Hardness	mg/L	*		*	once/quarter***** 24 hr. comp.
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE NEXT REPORT IS DUE <u>April 28, 2016</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
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 upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS	MONITORING REQUIREMENTS		
			MEASUREMENT FREQUENCY	SAMPLE TYPE	
<u>Outfall #007</u> Whole Effluent Toxicity (WET) Test	% Survival	See Special Condition #10	twice/year	24 hr. composite	
MONITORING REPORTS SHALL BE SUBMITTED <u>SEMI-ANNUALLY (January and July)</u> ; THE NEXT REPORT IS DUE <u>July 28, 2016</u> .					
B. STANDARD CONDITIONS					
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Once each weekday means: Monday, Tuesday, Wednesday, Thursday, and Friday, except National Holidays.
- *** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
- **** This facility is required to meet a removal efficiency of 85%. The 30-day average percent removal shall not be less than 85%.
- ***** Once per quarter – use table below for sample months.

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

Note 1 - Final limitations and monitoring requirements for Escherichia coliform is applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for Escherichia coliform is expressed as a geometric mean.

C. INFLUENT MONITORING REQUIREMENTS		PAGE NUMBER 5 of 10	
		PERMIT NUMBER MO-0004391	
The facility is required to meet a removal efficiency of 85% or more. The monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. To determine removal efficiencies, the influent wastewater shall be monitored by the permittee as specified below:			
SAMPLING LOCATION AND PARAMETER(S)	UNITS	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Influent</u>			
Carbonaceous Biochemical Oxygen Demand ₅	mg/L	once/week	24 hr composite
Total Suspended Solids	mg/L	once/week	24 hr composite
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE NEXT REPORT IS DUE <u>April 28, 2016</u> .			

D. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list. The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
2. All outfalls must be clearly marked in the field.
3. Changes in Discharges of Toxic Substances. The permittee shall notify the Director as soon as it knows or has reason to believe:
 - (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
4. Report as no-discharge when a discharge does not occur during the report period.
5. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

D. SPECIAL CONDITIONS (continued)

- (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
6. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.
 7. The permittee has developed and is currently implementing a program for maintenance and repair of the collection system. The permittee's program is consistent with the US EPA's Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) Program At Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002). The permittee shall continue to submit semi-annual reports as required by the federal consent decree entered in the matter of The United States et al. v. The Metropolitan St. Louis Sewer District, No. 4:07-CV-1120 (E.D. Mo.) which was entered on April 27, 2012.
 8. Permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of 40 CFR Part 403. The approved pretreatment program is hereby incorporated by reference. Permittee shall submit to the Department on or before September 30 of each year a report briefly describing its pretreatment activities during the previous calendar year. At a minimum, the report shall include the following:
 - (a) 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;
 - (b) A summary of the status of Industrial User compliance over the reporting period;
 - (c) A summary of compliance and enforcement activities (including inspections) conducted by the Permittee during the reporting period; and
 - (d) Any other relevant information requested by the Department.

As required in 40 CFR 122.21 (j)(4) the permittee shall, as part of its renewal application for this permit, submit to the department a written technical evaluation of the need to revise local limits under 40 CFR 403.5 (c)(1).

9. Sewer Extension Authority
 - (a) The Department has approved the Sewer Extension Program for MSD to regulate and approve construction of sanitary sewers that are tributary to this wastewater treatment plant.
 - (b) The approval of the Sewer Extension Program may be modified or revoked by the Department if the sewage collection, transportation, and receiving treatment facility reach their respective design capacity, or if the Department determines that this program is causing or contributing to chronic non-compliance of the receiving treatment facility, or if the permittee fails to follow the terms and conditions of the submitted and approved program.
 - (c) The Sewer Extension Program Special Condition may be reopened and modified and reissued, or alternatively revoked to incorporate new or modified conditions to the sewer construction permit authority, if information or regulation or statute indicates changes are necessary to assure compliance with Missouri's Clean Water Law and associated regulations.

D. SPECIAL CONDITIONS (continued)

- (d) If item b or item c of the Sewer Extension Program occurs, the permittee will be notified to any modification to this operating permit.
- (e) The Permittee, as part of their Sewer Extension Program, shall submit an annual report January 28th of each year, to the Missouri Department of Natural Resources' St. Louis Regional Office. The report must provide the following: 1) list of the name of the projects approved, and 2) the length of sewers and force mains and the capacity of lift stations constructed under the sewer extension program. A summary of total flow at the treatment facility shall be included. Detailed project information and data including design flows and inspection records shall be available for review upon request.
- (f) The Sewer Extension Authority is valid the length of this operating permit. Upon renewal of the permit, the Sewer Extension Authority for MSD- St. Louis will be reevaluated.

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

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
007	10 %	Twice/year	Multiple	Any (within each semi-annual reporting period)

Dilution Series						
40%	20%	10%	5%	2.5%	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

- (a) Test Schedule and Follow-Up Requirements
 - (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department's WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) For discharges of stormwater, samples shall be collected within three hours from when discharge first occurs.
 - (b) Samples submitted for analysis of stormwater discharges shall be collected as a grab.
 - (c) For discharges of non-stormwater, samples shall be collected only when precipitation has not occurred for a period of forty-eight hours prior to sample collection. In no event shall sample collection occur simultaneously with the occurrence of precipitation excepting for stormwater samples.
 - (d) A twenty-four hour composite sample shall be submitted for analysis of non-stormwater discharges.
 - (e) Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
 - (f) Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
 - (g) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (h) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analyses performed upon any other effluent concentration.
 - (i) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
 - (j) Where flow-weighted composite sample is required for analysis, the samples shall be composited at the laboratory where the test is to be performed.
 - (k) Where in stream testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
 - (l) Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.

D. SPECIAL CONDITIONS (continued)

- (m) All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned AEC for in-stream samples.
 - (2) All failing test results along with complete copies of the test reports as received from the laboratory, **INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW**, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
 - (3) If the effluent fails the test, a multiple dilution test shall be performed for **BOTH** test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met:
 - (a) **THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS**. No further tests need to be performed until next regularly scheduled test period.
 - (b) **A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL**.
 - (4) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
 - (5) Additionally, the following shall apply upon failure of the third MULTIPLE DILUTION test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
 - (6) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
 - (7) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
 - (9) Submit a concise summary in tabular format of all WET test results with the annual report.
- (b) PASS/FAIL procedure and effluent limitations:
- (1) To pass a multiple-dilution test:
 - (a) For facilities with a computed percent effluent at the edge of the zone of initial dilution, Allowable Effluent Concentration (AEC) OF 30% OR LESS, the AEC must be less than three-tenths (0.3) of the LC₅₀ concentration for the most sensitive of the test organisms; **OR**,
 - (b) For facilities with an AEC greater than 30%, the LC₅₀ concentration must be greater than 100%; **AND**,
 - (c) All effluent concentrations equal to or less than the AEC must be nontoxic. Mortality observed in all effluent concentrations equal to or less than the AEC shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other federal guidelines as appropriate or required. Failure of one multiple-dilution test may be considered an effluent limit violation.

D. SPECIAL CONDITIONS (continued)

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

- (c) Test Conditions
 - (1) Test Type: Acute Static non-renewal
 - (2) All tests, including repeat tests for previous failures, shall include both test species listed below.
 - (3) Test species: *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
 - (4) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
 - (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
 - (6) Multiple-dilution tests will be run with:
 - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) Reconstituted water.
 - (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
 - (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

SUMMARY OF TEST METHODOLOGY FOR ACUTE WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for *Ceriodaphnia dubia*:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for *Pimephales promelas*:

D. SPECIAL CONDITIONS (continued)

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATEMENT OF BASIS
MO-0004391
MSD, MISSOURI RIVER WWTF**

This Statement of Basis (Statement) gives pertinent information regarding modifications to the above listed operating permit without the need for a public comment process.

A Statement is not an enforceable part of a Missouri State Operating Permit.

Part I – Facility Information

Facility Type: POTW
Facility SIC Code(s): #4952

Facility Description:

The plant consists of the headworks with course screens for the Bonfils influent line/ Six fine screens/ Four grit chambers/Pre-aeration basins and a wet-weather peak storage basin for flows over 80 MGD. The wet-weather storage basin does not discharge from Outfall #007, but stored waste water is pumped back to the pump station and into the plant. This permit prohibits blending; any blending shall be considered an unauthorized bypass pursuant to 40 CFR 122.41(m) and shall be reported pursuant to 40 CFR 122.41(m). Next, primary and secondary treatment consisting of four primary clarifiers/ Six aeration tanks/ Six secondary (final) clarifiers/ UV disinfection; anaerobic digestion/sludge thickening/sludge dewatering/sludge disposal via hauling for land application; composting; incineration or landfill; odor control.

Part II – Modification Rationale

This operating permit is hereby modified to reflect a change in treatment technologies. CBOD limit, TSS limit, Ammonia Nitrogen monitoring, and removal efficiency were changed to reflect this change in technology.

No other changes were made at this time.

Part III – 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.

DATE OF STATEMENT OF BASIS: FEBRUARY 16, 2016

COMPLETED BY:

**CONRAD BLUME, E.I., ENVIRONMENTAL ENGINEER
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
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Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF MODIFICATION
OF
MO-0004391
METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD), MISSOURI RIVER WWTF

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

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

A Factsheet is not an enforceable part of an operating permit.
This Factsheet is for a Major ,

Part I – Facility Information

Facility Type: POTW
Facility SIC Code(s): 4952

Facility Description:

The plant consists of the headworks with course screens for the Bonfils influent line/ Six fine screens/ Four grit chambers/Pre-aeration basins and a wet-weather peak storage basin for flows over 80 MGD. The wet-weather storage basin does not discharge from Outfall #007, but stored waste water is pumped back to the pump station and into the plant. This permit prohibits blending; any blending shall be considered an unauthorized bypass pursuant to 40 CFR 122.41(m) and shall be reported pursuant to 40 CFR 122.41(m). Next, primary and secondary treatment consisting of four primary clarifiers/ Six aeration tanks/ Six secondary (final) clarifiers/ UV disinfection; anaerobic digestion/sludge thickening/sludge dewatering/sludge disposal via hauling for land application; composting; incineration or landfill; odor control.

Design population equivalent is 380,000.
Design flow is 38 million gallons per day (MGD).
Actual flow is 29.1 million gallons per day.
Design sludge production is 7,840 dry tons/year.
Actual sludge production is 3,300 dry tons/year.

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

- Yes;

Limits were adjusted after reasonable potential analysis and to reflect changes in water quality standards and effluent regulations.

Application Date: 06/21/10
Expiration Date: 12/29/10

Last Inspection: 09/15/11 In Compliance ; Non-Compliance

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
005	-	-	Emergency	-
006	variable	Stormwater	Stormwater runoff	0.0
007	43.4	Secondary	Industrial, Domestic	0.0

Outfall #005 - Emergency overflow from the influent structure

Legal Description: Land Grant #03094, St. Louis County
 UTM Coordinates: X= 717889 / Y= 4291843
 Receiving Stream: Creve Coeur Creek (P) (01702)
 First Classified Stream & ID: Creve Coeur Creek (P) (01702)
 USGS Basin and Subwatershed: (10300200-0703)

Outfall #006

Storm water runoff.
 Legal Description: Land Grant #03094, St. Louis County
 UTM Coordinates: X= 718143 / Y= 4290901
 Receiving Stream: Missouri River (P) (01604)
 First Classified Stream & ID: Missouri River (P) (01604)
 USGS Basin and Subwatershed: (10300200-0703)
 Note: UTM coordinates are in Creve Coeur Creek watershed. Stormwater is conveyed to Missouri River.

Outfall #007-POTW-SIC#4952

Legal Description: Land Grant #03094, St. Louis County
 UTM Coordinates: X= 717587 / Y= 4291619
 Receiving Stream: Missouri River (P) (01604)
 First Classified Stream & ID: Missouri River (P) (01604)
 USGS Basin and Subwatershed: (10300200-0704)

Receiving Water Body's Water Quality & Facility Performance History:

No stream surveys have been conducted but a basin inventory was conducted for the Missouri River indicating habitat loss and channelization. Missouri River is listed on the 2002 Missouri 303(d) List for chlordane/PCBs in fish tissue. Missouri River is listed on the 2008 Missouri 303(d) List for Bacteria. The facility is not responsible for the impairments. Total toxic organics testing was noted to be in compliance and thus was removed from the permit. If future Form B2, Part D Expanded Effluent Test Data indicates a need for this testing, the permit writer may request that total toxic organics testing be applied in a future renewal. During the last permit cycle, the facility had one discharge sampling event from 3/16-3/22/08 from Outfall #005 – Emergency Outfall. This one discharge event had a TSS exceedences. Outfall #006 had exceedences for settleable solids as follows: 1) twice in 2005 and 2006, 2) four times in 2008. For Outfall #007, according to MSD, permit limit exceedences were as follows: 1) Oil and Grease – once in 2006. The following were reported exceedences in MDNR's Water Quality Information System but could not be confirmed by MSD: 1) TSS--once in 2005; 4) CBOD5—once in 2005. Lead and chromium have monitoring only requirements. This review cannot correct the discrepancies in the database.

Comments:

Facility has upgraded the headworks since the last renewal. Wet weather peak flow storage is also new in this renewal. The facility is not a combined sewer overflow (CSO) facility but a subject to sanitary sewer overflows (SSO), hence the need for the wet weather peak flow storage for flows over 80 MGD.

Modification to the secondary treatment and design flow are forthcoming. The proposed expansion will include replacement of the existing trickling filter treatment process with an activated sludge process, which will provide for a higher level of treatment than currently exists.

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.010(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Check boxes below that are applicable to the facility;

- Owned or operated by or for:
 - Municipalities
 - Public Sewer District

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

- Department required:
The Department requires this facility to retain the services of a certified operator due to: Score of 97 in Appendix A.

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

Operator's Name: Ken Gambaro
Certification Number: 3809
Certification Level: A

Part III – Receiving Stream Information

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 (see Appendix B) section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]:

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

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Creve Coeur	P	01702	LWW, AQL, WBC(B) ***	10300200	Ozark/Moreau/Loutre
Missouri River	P	01604	LWW, AQL, WBC(B), SCR, DWS, IND		

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

** - Ecological Drainage Unit

*** - UAA conducted on October 2006—no action taken to date.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Missouri River (P)	16,520	18,593	24,375

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(4)(A)...]		ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(4)(A)...]	
7Q10	30Q10	1Q10	7Q10
4648.3	6093.8	413.0	434.0*

Mixing Zone (MZ): One-quarter (1/4) of the stream volume of flow; length one-quarter (1/4) mile.
 [10 CSR 20-7.031(4)(A)4.B.(III)(a)].

Zone of Initial Dilution (ZID): One-tenth (0.1) of the mixing zone volume of flow, not to exceed 10 times the effluent design flow.
 [10 CSR 20-7.031(4)(A)4.B.(III)(b)]. * *Used ten times the designed flow.*

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

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

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

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

Not Applicable ;

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

ANTI-BACKSLIDING:

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

- 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.

ANTIDegradation:

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

- Renewal no degradation proposed and no further review necessary.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

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

BIOSOLIDS, SLUDGE, & SEWAGE SLUDGE:

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Additional information regarding biosolids and sludge is located at the following web address: <http://dnr.mo.gov/env/wpp/pub/index.html>, items WQ422 through WQ449.

- Sludge/biosolids are removed by hauling and landfilled.

COMPLIANCE AND ENFORCEMENT:

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

Not Applicable ;

The permittee/facility is not currently under Water Protection Program enforcement action.

PRETREATMENT PROGRAM:

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

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

Applicable ;

This permittee has an approved pretreatment program in accordance with the requirements of [40 CSR 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)(iii)] if the permit writer determines that any give pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

Applicable ;

A RPA was conducted on appropriate parameters. Please see **APPENDIX B – RPA RESULTS**.

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm.

Applicable ;

Secondary Treatment is 85% removal [40 CFR Part 133.105(a)(3) & (b)(3)].

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

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

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

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

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

SCHEDULE OF COMPLIANCE (SOC):

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

Applicable ;

This permit contains a Schedule of Compliance for *E. coli*. The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)].

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

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

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 Storm Water 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 storm water discharges.

Applicable ;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

VARIANCE:

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

Not Applicable ;

This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

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

Applicable ;

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

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

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

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

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

Number of Samples "n":

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

WLA MODELING:

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

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

WATER QUALITY STANDARDS:

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

WHOLE EFFLUENT TOXICITY (WET) TEST:

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

Applicable ;

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

Facility is a designated Major.

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

Applicable ;

Missouri River is listed on the 2002 Missouri 303(d) List for chlordane/PCBs in fish tissue.
Missouri River is listed on the 2008 Missouri 303(d) List for Bacteria.

– This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment of Missouri River

Part V – Effluent Limits Determination

Outfall #005 – Emergency Outfall

Emergency diversion from the influent structure. Discharge from this outfall shall be considered an unauthorized bypass pursuant to 40 CFR 122.41(m) and shall be reported, pursuant to 40 CFR 122.41(m) (3).

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

Outfall #006 – Storm water Outfall

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

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	*	1	*		*	NO	
BOD ₅	(MG/L)	1	*		*	NO	
RAINFALL	(INCHES)	1	*		*	NO	
PH	(S.U.)	1	*		*	YES	6.0-9.0
OIL & GREASE	(MG/L)	1,2	*		*	YES	15/10
SETTLABLE SOLIDS	ML/L/HR.	9	*		*	YES	1.5/1.0

* - Monitoring requirement only.

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

OUTFALL #006 – 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.
- **Precipitation.** (Rainfall) Monitoring requirement only, requirement retained from previous state operating permit.
- **Biochemical Oxygen Demand (BOD₅).** Monitoring requirement only, requirement retained from previous state operating. The discharge monitoring data indicate that BMPs have been successfully implemented as per the SWPPP for the facility. Please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **pH.** The discharge monitoring data indicate that BMPs have been successfully implemented as per the SWPPP for the facility; therefore, limitations are removed from previous state operating. [10 CSR 20-7.015(2)(A)2.], please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **Oil & Grease.** The discharge monitoring data indicate that BMPs have been successfully implemented as per the SWPPP for the facility; therefore, limitations are removed from previous state operating.
- **Settleable Solids.** Monitoring requirement only. The daily maximum of 1.5 mL/L/hr and the monthly average of 1.0 mL/L/hr are not retained from previous state operating. The permittee has developed a Storm Water Pollution Prevention Plan which includes Best Management Practices to control storm water discharges.

Outfall #007 – 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 FOR OUTFALL 007:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	*	1	*			NO	
CBOD ₅ **	(MG/L)	1		40	25	YES	60/40
TSS **	(MG/L)	1		45	30	YES	65/45
PH	(S.U.)	1	6.5 – 9.0		6.5– 9.0	YES	6.0-9.0
AMMONIA AS N (MAY 1 – OCT 31)	(MG/L)	2,3,5	*		*	NO	
AMMONIA AS N (NOV 1 – APR 30)	(MG/L)	2,3,5	*		*	No	
ESCHERICHIA COLIFORM (E. COLI) ***	COL/100 ML	1,2,3		1030	206	NO	
NITRATE & NITRITE	(MG/L)		*		*	No	
CADMIUM, TOTAL RECOVERABLE	(µG/L)	2,3	*		*	No	
CHROMIUM III, TOTAL RECOVERABLE	(µG/L)	2,3	*		*	No	
CHROMIUM VI, DISSOLVED	(µG/L)	2,3	*		*	No	
LEAD, TOTAL RECOVERABLE	(µG/L)	2,3	*		*	No	
OIL & GREASE	(MG/L)	1,2	15.0		10.0	No	
TOTAL PHOSPHORUS	(MG/L)	2,3	*		*	No	
TOTAL NITROGEN AS N	(MG/L)	2,3	*		*	No	
CHEMICAL OXYGEN DEMAND (COD)	(µG/L)	2,3	*		*	No	
HARDNESS	(MG/L)	2,3	*		*	No	
WHOLE EFFLUENT TOXICITY (WET) TEST	% Survival	11	Please see WET Test in the Derivation and Discussion Section below.				
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* Monitoring requirement only.

** This facility is required to meet a removal efficiency of 65% or more for CARBONACEOUS BOD₅ and TSS. Influent CARBONACEOUS BOD₅ and TSS data should be reported to ensure removal efficiency requirements are met.

Note: Monitoring requirements for all POCs, except total phosphorus, total N, COD and hardness, were applied to obtain data for future reasonable potential analysis.

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

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

Basis for Limitations Codes:

- | | |
|--|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Dissolved Oxygen Policy | 12. Antidegradation Review |

OUTFALL #007 – 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.
- **Carbonaceous Biochemical Oxygen Demand (BOD₅).** BOD₅ limits of 30 mg/L monthly average, 45 mg/L weekly average [10 CSR 20-7.015(2)(B)1]. However, per 10 CSR 20-7.015(2)(B)6, the permittee requests carbonaceous BOD₅ (CBOD₅) of 25 mg/L monthly average, 40 mg/L weekly average. No demonstration that nitrification is occurring was provided. After discussion with Staff, MSD’s treatment type may have sufficient nitrification to merit CBOD₅ limits.

The MSD Antidegradation Report determined using ultimate BOD (BOD_u) that the net increase in total BOD ultimate divided by the available assimilative capacity of the Missouri River was less than 10% or 0.5% and thus minimally degrading. In addition, Streeter Phelps modeling simulated using the current design and the proposed design flow indicated a 1.44 and 1.50 mg/L deficit. This modeled difference is insignificant. The modeled lowest dissolved oxygen or critical dissolved oxygen sag was 6.6 and 6.5 mg/L, respectively. The sag may take place approximately 55 miles downstream of the discharge which is ultimately in the Mississippi River. The model was not able to account for the high flows of the Mississippi River.

To protect beneficial uses within the Missouri River, the consultant used 25 mg/L CBOD₅ as input to the Streeter Phelps analysis. While we normally simulate using the maximum daily, we believe the increase will remain protective.

As a result of this analysis, MDNR staff concludes that the above mentioned effluent limits are protective of beneficial uses and existing water quality.

- **Total Suspended Solids (TSS).** 30 mg/L monthly average, 45 mg/L weekly average. [10 CSR 20-7.015(2)(B)1].
- **pH.** The limitation have been modified to 6.5-9.0 SU per [10 CSR 20-7.015(2)(A)2.], please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.**
- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L

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

Summer: May 1 – October 31, Winter: November 1 – April 30.

See Table 5 for limit determination. Because the facility performance is uncertain with the new expansion, ammonia limits were developed. Monitoring only was applied because existing discharge averages about 16 mg/L and the proposed treatment will likely have nitrification beyond the existing facility. This technology-based average discharge is lower than the water quality-based limit. Upon renewal, a reasonable potential analysis (RPA) will be conducted to determine the need for the ammonia limits. The RPA should be conducted such that the maximum daily limit on Table 4 and 5 will not be exceeded.

Note: This permit contains limitations for both fecal coliform and E. coli. Upon completion of construction the applicant must submit a permit modification request to the Department. When the permit is modified it will contain the appropriate limitations and monitoring frequency for E. coli only.

- **Escherichia coli (E. coli)** Discharge shall not contain more that a monthly geometric mean of 206 colonies/100ml during the recreation season (April 1 – October 31) [10 CSR 20-7.031, Table A].

- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Nitrates & Nitrites.** Monitoring only. Results of the reasonable potential analysis indicate that there is no reasonable potential of exceed water quality standards criteria. These parameters are included as an indication of performance of the facility and will be reviewed upon renewal of the permit.
- **Total Phosphorus and Total Nitrogen as N.** Monitoring only. This parameter is included as an indication of performance of the facility and will be reviewed upon renewal of the permit.
- **Chemical Oxygen Demand (COD).** Monitoring only. This parameter is included as an indication of performance of the facility and will be reviewed upon renewal of the permit.

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 200 mg/L is used in the conversion below.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, 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, hardness, 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	0.915	0.88
Chromium III	0.316	0.860
Chromium VI	1.0	1.0
Lead	0.690	0.690

Conversion factors for Cd and Pb are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 200 mg/L.

- **Cadmium, Total Recoverable.** Monitoring only. Results of the reasonable potential analysis indicate that there is no reasonable potential of exceed water quality standards criteria.
- **Chromium III, Total Recoverable.** Monitoring only. Results of the reasonable potential analysis indicate that there is no reasonable potential of exceed water quality standards criteria.
- **Chromium VI, Dissolved.** Monitoring only. Results of the reasonable potential analysis indicate that there is no reasonable potential of exceed water quality standards criteria.
- **Lead, Total Recoverable.** To be consistent with the draft final expansion permit, monitoring only was applied. Monitoring only with the following explanation. **Lead is a Tier 1 pollutant in this segment of the Missouri River.** The dissolved lead component of total lead was determined to be Tier 2 and the use of the 90th percentile dissolved lead concentration (0.308 ug/L) in the RPA (see Appendix B) did not exceed water quality standards for aquatic life criteria. In addition, the upstream total recoverable concentration of lead is 15.1 ug/L; this value is the 90th percentile value, not the arithmetic mean. The arithmetic mean is 7.29 ug/L. The upstream lead concentration is a major contributing factor to the exceedance of the drinking water standards at the end of the mixing zone. The upstream concentration is a calculated value; therefore it may not represent the actual concentration in the receiving stream. The exceedance of drinking water standard is within one standard deviation of the mean concentration. Therefore, MDNR staff believes that monitoring only is sufficient. Protection of Aquatic Life Chronic and Acute Criteria (µg/L) are listed in Table 2 and Table 5. Monitoring frequency based upon compliance with state regulations at 10 CSR 20-7.015(2)(D) and 10 CSR 20-7.015(2)(D)4.

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

Acute

No less than **TWICE/YEAR:**

Facility is subject to production processes alterations throughout the year.

Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.

Facility has been granted seasonal relief of numeric limitations.

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

$$\text{Acute AEC\%} = ((\text{design flow}_{\text{cfs}} + \text{ZID}_{7Q10}) / \text{design flow}_{\text{cfs}})^{-1} \times 100 = 10\%$$

The dilution series is 40%, 20%, 10%, 5%, 2.5%.

- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit.

PART VI: Finding of Affordability

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

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

Finding of affordability - The department has made a reasonable search for empirical data indicating the permit is affordable. The search consisted of a review of department records that might contain economic data on the community, a review of information provided by the applicant as part of the application, and public comments received in response to public notices of this draft permit. If the empirical cost data was used by the permit writer, this data may consist of median household income, any other ongoing projects that the Department has knowledge, and other demographic financial information that the community provided as contemplated by Section 644.145.3.

The department is hereby making a finding based from the following facts:

- 1) The applicant states that the terms and conditions are affordable for the community.
OR; This permit action was taken at the discretion of the facility, therefore the department assumes the applicant already determined it is affordable;
- 2) The permit action is taken at the discretion of the system itself (e.g., sewer extension construction permits, or the relocation of an outfall in lieu of otherwise upgrading a system in order to comply with a permit issued prior to July 11, 2011);
- 3) This permit contains no new or expanded terms and conditions;
- 4) The department is not aware of any significant economic impacts this permit would cause on distressed populations;
- 5) No comments indicating such impact were received during the public comment period on the draft permit;
- 6) The department is not aware of any other more cost effective wastewater treatment options that would achieve the required effluent quality;
- 7) The Facility Plan on the construction permit contained an affordability finding;
- 8) The applicant provided increased effluent discharge monitoring costs due to expanded monitoring frequency for certain permit parameters;
- 9) An affordability analysis was performed as part of the Long Term Control Plan on Combined Sewer Overflows;
- 10) An affordability analysis was performed as part of an Anti-degradation Review Determination;

- 11) The applicant has entered into a Voluntary Compliance Agreement (VCA) for the purpose of eliminating inflow and infiltration into the plant. The applicant entered into the VCA after due consideration, therefore the department assumes that the applicant has determined it is affordable.
- 12) The applicant is negotiating an Amended Consent Judgment which addresses eliminating inflow and infiltrations into the plant, as well as future unauthorized discharges from the facility's peak flow clarifier. This Amended Consent Judgment will establish a schedule to address these issues taking in to consideration affordability. Final and interim effluent limitations have been established in this permit for various metals. Additional treatment to attain compliance with final limitations should not be necessary given the fact that the city has an approved pretreatment program to establish localized limitations on industrial dischargers of the facility. Because such metals limitations are not expected to cause any significant increases in the cost of operating the WWTP, the Department finds that the reissuance of this permit is affordable pursuant to Section 644.145 RSMo.
- 13) The applicant is negotiating an Amended Consent Judgment which addresses eliminating inflow and infiltrations into the plant, as well as future unauthorized discharges from the facility's peak flow clarifier. This Amended Consent Judgment will establish a schedule to address these issues taking in to consideration affordability. Final and interim limitations have been established in this permit for E. coli. Additional treatment to attain compliance with final limitations should not be necessary given the fact that the facility has ozone disinfection as part of its treatment train. Because such E. coli limitations are not expected to cause any significant increases in the cost of operating the WWTP, the Department finds that the reissuance of this permit is affordable pursuant to Section 644.145 RSMo.
- 14) Others: explain.
Section 644.145 of HB 89 as signed by the Governor on July 11, 2011, requires the Department to make a finding of affordability, with respect to the community and its residents, in connection with the issuance of certain permits under the Missouri Clean Water Law.

The financial capability of the Metropolitan St. Louis Sewer District (MSD) was considered in the *Combined Sewer Overflow Long-Term Control Plan Update Report, Revised February 2011* (Plan). Although the Missouri River Wastewater Treatment Facility is not part of a combined sewer system, the financial capability analysis in the report included this facility's service area and the projected costs for known projects at the time.

In addition, projects to improve the Missouri Wastewater Treatment Facility and the collection system will be required as part of the federal consent decree No. 4:07-CV-1120(CEJ), which was lodged on August 4, 2011.

Part VII – Administrative Requirements

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

PUBLIC NOTICE:

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

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

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

(Individual permit writers may leave the below check boxes and discussion during the drafting of the Factsheet; however, once one of the boxes below is applicable, the permit writer will need to check the appropriate box and fill in the needed items. At that time the permit writer may or may not (SOP of each RO at this time) remove the unchecked boxes. **Please remove this reminder.**

- The Public Notice period for this operating permit is tentatively schedule to begin on November 10, 2011 or is in process.

DATE OF FACT SHEET: MARCH 25, 2011, REVISED DECEMBER 20, 2011, REVISED FEBRUARY 4, 2016

COMPLETED BY:

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Part VIII – Appendices**APPENDIX A - 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.	10
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	10
EFFLUENT DISCHARGE RECEIVING WATER SENSITIVITY:		
Missouri or Mississippi River	0	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	
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	5
Combined sedimentation/digestion	5	
Chemical addition (except chlorine, enzymes)	4	
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
Lab work conducted outside of plant	0	
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	
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	10
ALTERNATIVE FATE OF EFFLUENT		
Direct reuse or recycle of effluent	6	
Land Disposal – low rate	3	
High rate	5	5
Overland flow	4	
Total from page ONE (1)	----	49

APPENDIX A - 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	0
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	
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	
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	5
Anaerobic digestion	10	10
Aerobic digestion	6	
Evaporative sludge drying	2	
Mechanical dewatering	8	8
Solids reduction (incineration, wet oxidation)	12	
Land application	6	6
Total from page TWO (2)	----	48
Total from page ONE (1)	---	49
Grand Total	---	97

- A : 71 points or greater
- B: 51 points - 70 points
- C: 26 points - 50 points
- D: 0 points - 25 points

APPENDIX B – RPA (Reasonable Potential Analysis) RESULTS:

Note: To keep the renewal limitations consistent with the draft final expansion permit, we used the Reasonable Potential Analysis (RPA) from October 2008 revision of the Antidegradation Report. Discharge monitoring data ranged from 2003- 2008. Review of the 2008-2010 discharge monitoring data found maximum values that were lower or equivalent to those presented below. Cadmium had a slightly higher maximum value in a 2010 sampling event; however, no reasonable potential to exceed was found as presented in the table below. Program staff are confident that there is no reasonable potential to exceed for the parameters listed below. Total recoverable lead was slightly above aquatic life standard (AQLS) when comparing the receiving stream concentration; however, as stated in the discussion section above for outfall 007, the dissolved component of the total recoverable lead was 0.3 ug/L, which was well below the AQLS of 7.7 ug/L. The parameters in the table below are parameters that are in the current permit. The result of the RPA is that no change in the current permit limitations for the parameters listed below.

Outfall #007
 Classified
 Facility Name
 Permit Number
 Stream name

P streams only
 MSD, Missouri
 River WWTF
MO-0004391
Missouri River

$$C = \frac{(C_{us} * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)}$$

Qs - 30Q5 = 28804
Qs - 1Q10 = 413 (0.025*1Q10)
Qs - 30Q10 = 6093.8 (0.25*30Q10)
Qs acute = 434
Qs chronic = 4648

All metals are total recoverable, except Cus for:
 chromium VI

Qs = Stream 7Q10 flow (ft³/s), or 1Q10, or 30Q10
 Qe = Effluent design flow (ft³/s)
 Cus = combined stream concentrations (see Footnote 1 below)
 Ce = maximum effluent concentration
 NA = not applicable

Qe= 43.4

UNITS: Metals=ug/L; Ammonia, Nitrates, O&G = mg/L; E. coli=cfu/100ml	Aquatic Life Acute (Cc)	Aquatic Life Chronic (Cc)	Chronic Drinking Water Standard	Maximum Concentration (Ce)	Stream Concentrations (Cus) ¹	RPTE Calculation	Receiving Stream Concentration (C)- MZ	Receiving Stream Concentration (C)-ZID	RPTE (Y/N)
Ammonia (May-Oct)	12.1	1.5		22.4	0.03	32.3	0.1882	2.0636	N
Ammonia (Nov-Apr)	12.1	3.1		29.6	0.03	54.9	0.2391	2.7182	N
E. coli	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	10.20	0.5	5	9	0.28	7.80	0.3607	1.0727	N
Chromium III	3180.00	212	100	16	4.78	48.20	4.8838	5.8000	N
Chromium VI	15.00	10		15.7	0.41	47.90	0.5514	1.8000	N
Lead	197.10	7.7	15	20	15.10	124.10	15.1453	15.5455	Y
Oil and Grease	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrates			10	18.50	1.40	72.00	1.5582	2.9545	N

Footnote 1: Receiving stream concentration was obtained from the USGS water quality sampling station - Missouri River at Chesterfield, Mo (Years 2005-2007). Cus represents a combination of existing water quality data (upstream monitoring data and Duckett Creek facilities concentrations) It is a calculated value. EQW from the USGS WQ sampling station was unfiltered or total recoverable. Lead is Tier 1, thus use 90th percentile sampling data. Note: Lead receiving stream concentration is compared to WQS.

Assumptions and Basis:

RPTE calculation was based on values provided by MEC Water Resources, who analyzed the discharge monitoring data for the Missouri River WWTF.

WQ Criteria:

Aquatic life chronic and acute standards were converted to total recoverable. Hardness of 200 mg/L was used to calculate criteria for metals that are hardness dependent. Hardness data was obtained from 2005-07 USGS Water Quality Station at Chesterfield, Mo.

N/A – Not Applicable

Units are (µg/L) unless otherwise noted.

Receiving Stream Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).

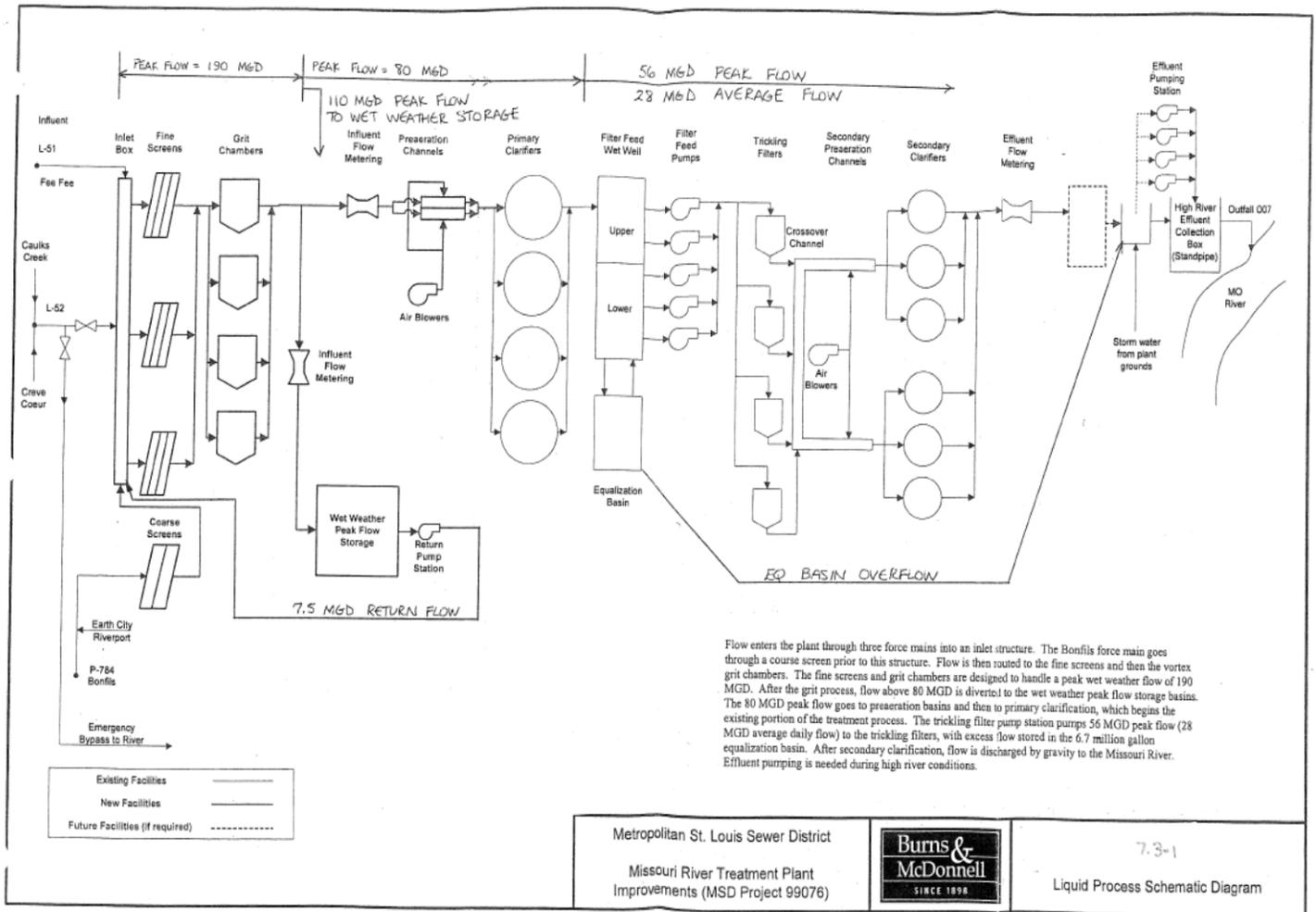
n – Is the number of samples.

MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.

RPTE – Reasonable Potential to Exceed. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

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

APPENDIX C: MISSOURI RIVER WWTF Flow Diagram



**STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION**

**Revised
October 1, 1980**

**PART I - GENERAL CONDITIONS
SECTION A - MONITORING AND REPORTING**

1. **Representative Sampling**
 - a. Samples and measurements taken as required herein shall be representative of the nature and volume, respectively, of the monitored discharge. All samples shall be taken at the outfall(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
 - b. Monitoring results shall be recorded and reported on forms provided by the Department, postmarked no later than the 28th day of the month following the completed reporting period. Signed copies of these, and all other reports required herein, shall be submitted to the respective Department Regional Office, the Regional Office address is indicated in the cover letter transmitting the permit.
2. **Schedule of Compliance**

No later than fourteen (14) calendar days following each date identified in the "Schedule of Compliance", the permittee shall submit to the respective Department Regional Office as required therein, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or if there are no more scheduled requirements, when such noncompliance will be corrected. The Regional Office address is indicated in the cover letter transmitting the permit.
3. **Definitions**

Definitions as set forth in the Missouri Clean Water Law and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein.
4. **Test Procedures**

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.
5. **Recording of Results**
 - a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
 - (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. 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 this permit 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 both.
 - c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monitoring Report Form. Such increased frequency shall also be indicated.

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this 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.

SECTION B - MANAGEMENT REQUIREMENTS

1. **Change in Discharge**
 - a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant not authorized by this permit or any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.
 - b. Any facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants shall be reported by submission of a new NPDES application at least sixty (60) days before each such change, or, if they will not violate the effluent limitations specified in the permit, by notice to the Department at least thirty (30) days before such changes.
2. **Noncompliance Notification**
 - a. If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department with the following information, in writing within five (5) days of becoming aware of such conditions:
 - (i) a description of the discharge and cause of noncompliance, and
 - (ii) the period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.
 - b. Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally with 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided with five (5) days of the time the permittee becomes aware of the circumstances. The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
3. **Facilities Operation**

Permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions. Operators or supervisors of operations at publicly owned or publicly regulated wastewater treatment facilities shall be certified in accordance with 10 CSR 209.020(2) and any other applicable law or regulation. Operators of other wastewater treatment facilities, water contaminant source or point sources, shall, upon request by the Department, demonstrate that wastewater treatment equipment and facilities are effectively operated and maintained by competent personnel.
4. **Adverse Impact**

The permittee shall take all necessary steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit or set forth in the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

- a. Any bypass or shut down of a wastewater treatment facility and tributary sewer system or any part of such a facility and sewer system that results in a violation of permit limits or conditions is prohibited except:
 - (i) where unavoidable to prevent loss of life, personal injury, or severe property damages; and
 - (ii) where unavoidable excessive storm drainage or runoff would catastrophically damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit;
 - (iii) where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance.
 - b. The permittee shall notify the Department in writing of all bypasses or shut down that result in a violation of permit limits or conditions. This section does not excuse any person from liability, unless such relief is otherwise provided by the statute.
6. **Removed Substances**
Solids, sludges, filter backwash, or any other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from entering waters of the state unless permitted by the Law, and a permanent record of the date and time, volume and methods of removal and disposal of such substances shall be maintained by the permittee.
 7. **Power Failures**
In order to maintain compliance with the effluent limitations and other provisions of this permit, the permittee shall either:
 - a. in accordance with the "Schedule of Compliance", provide an alternative power source sufficient to operate the wastewater control facilities; or,
 - b. if such alternative power source is not in existence, and no date for its implementation appears in the Compliance Schedule, halt or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.
 8. **Right of Entry**
For the purpose of inspecting, monitoring, or sampling the point source, water contaminant source, or wastewater treatment facility for compliance with the Clean Water Law and these regulations, authorized representatives of the Department, shall be allowed by the permittee, upon presentation of credentials and at reasonable times;
 - a. to enter upon permittee's premises in which a point source, water contaminant source, or wastewater treatment facility is located or in which any records are required to be kept under terms and conditions of the permit;
 - b. to have access to, or copy, any records required to be kept under terms and conditions of the permit;
 - c. to inspect any monitoring equipment or method required in the permit;
 - d. to inspect any collection, treatment, or discharge facility covered under the permit; and
 - e. to sample any wastewater at any point in the collection system or treatment process.
 9. **Permits Transferable**
 - a. Subject to Section (3) of 10 CSR 20-6.010 an operating permit may be transferred upon submission to the Department of an application to transfer signed by a new owner. Until such time as the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
 - b. The Department, within thirty (30) days of receipt of the application shall notify the new permittee of its intent to revoke and reissue or transfer the permit.
 10. **Availability of Reports**
Except for data determined to be confidential under Section 308 of the Act, and the Law and Missouri Clean Water Commission Regulation for Public Participation, Hearings and Notice to Governmental Agencies 10 CSR 20-6.020, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by statute, effluent data shall not be considered confidential. Knowingly making any false statement on any such report shall be subject to the imposition of criminal penalties as provided in Section 204.076 of the Law.
 - 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) violation 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 and 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.
12. **Permit Modification - Less Stringent Requirements**
If any permit provisions are based on legal requirements which are lessened or removed, and should no other basis exist for such permit provisions, the permit shall be modified after notice and opportunity for a hearing.
 13. **Civil and Criminal Liability**
Except as authorized by statute and provided in permit conditions on "Bypassing" (Standard Condition B-5) and "Power Failures" (Standard Condition B-7) nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.
 14. **Oil and Hazardous Substance Liability**
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act, and the Law and Regulations. Oil and hazardous materials discharges must be reported in compliance with the requirements of the Federal Clean Water Act.
 15. **State Laws**
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.
 16. **Property Rights**
The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of or violation of federal, state or local laws or regulations.
 17. **Duty to Reapply**
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit 180 days prior to expiration of this permit.
 18. **Toxic Pollutants**
If a toxic effluent standard, prohibition, or schedule of compliance is established, under Section 307(a) of the Federal Clean Water Act for a toxic pollutant in the discharge of permittee's facility and such standard is more stringent than the limitations in the permit, then the more stringent standard, prohibition, or schedule shall be incorporated into the permit as one of its conditions, upon notice to the permittee.
 19. **Signatory Requirement**
All reports, or information submitted to the Director shall be signed (see 40 CFR-122.6).
 20. **Rights Not Affected**
Nothing in this permit shall affect the permittee's right to appeal or seek a variance from applicable laws or regulations as allowed by law.
 21. **Severability**
The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
Revised
October 1, 1980**

**PART II - SPECIAL CONDITIONS - PUBLICLY OWNED
TREATMENT WORKS
SECTION A - MAJOR CONTRIBUTING INDUSTRY**

1. Definitions

Definitions as set forth in the Missouri Clean Water Laws and Missouri Clean Water Commission Definition Regulation 10 CSR 20-2.010 shall apply to terms used herein, in addition to the following:

- a. A "major contributing industry" to a publicly owned treatment facility is a wastewater source that meets any one of the following criteria:
 - (1) has a flow of 50,000 gallons or more per average workday;
 - (2) has an average daily flow greater than five percent (5%) of the flow carried by the system receiving the waste;
 - (3) has in its waste a toxic pollutant in toxic amounts as defined in standards issued under Section 307(a) of the Federal Water Pollution Control Act (hereinafter the Act), or
 - (4) has significant impact, either singly or in combination with other contributing industries, on the treatment works or in the quality of its effluent.
- b. "Compatible pollutants" are biochemical oxygen demand, suspended solids, pH, and fecal coliform bacteria, plus additional pollutants, e.g., nitrogen or phosphorus, identified in the NPDES permit, if the publicly owned treatment facility was designed to treat such pollutants, approved by the Department and in fact does remove such pollutants to design specifications.
- c. An "incompatible pollutant" is any pollutant which is not a compatible pollutant as defined above.

2. Industrial Effluent Monitoring

The permittee shall establish and implement a procedure to periodically or regularly obtain monitoring data on the quality and quantity of all effluents introduced by each major contributing industry. Frequency of monitoring shall be subject to approval by the Department.

3. Industrial Users Report

Each permittee which has a major contributing industry shall also submit to the permit-issuing authority semi-annual reports summarizing all major contributing industries subject to the pretreatment requirements of the Missouri Clean Water Law and Regulations (hereinafter the Law and Regulations), or Section 307 of the Act. These reports must be filed with the Department of Natural Resources, PO Box 176, 205 Jefferson Street, Jefferson City,

Missouri 65102 by January 1 and July 1 of each year. Such a report shall include at least the following information:

- a. name and number of major contributing industries using the treatment works and the waste type, raw materials usage (lbs/day or kg/day), and average daily flow for each industry;
- b. summary of monitoring data obtained in accordance with Standard Conditions Part II, Section A.2 above, detailing the quality and quantity of all effluents introduced by each major contributing industry, and the frequency of monitoring performed;
- c. number of major contributing industries in full compliance with the requirements of the Law and Regulations and Section 307 of the Act or not subject to these requirements (e.g., discharge only compatible pollutants), and
- d. a list identifying by name those major contributing industries presently in violation of the requirements of the Law and Regulations and Section 307 of the Act (e.g., discharges pollutant which interferes with, passes through or is incompatible with the municipal treatment works).

4. Report on Pollutant Introduction

The permittee shall give notice to the department of any new introduction of pollutants or any substantial change in the character or volume of pollutants already being introduced. Such notice shall include:

- a. the origin, quality, and quantity of pollutants to be introduced into the publicly owned treatment works; and
- b. any anticipated impact on the quality and quantity of the effluent to be discharged by such treatment works;
- c. any anticipated impact on the quality of sludge produced by such treatment works causing the sludge to be hazardous under Federal and State Law.

5. Industrial Users Compliance Schedules

The permittee shall identify any introduction of pollutants into the facility subject to pretreatment standards under Section 307(b) of the Federal Clean Water Act. In addition, the permittee shall require any industrial user of such treatment works to comply with the requirements of Section 204(b), 307, and 308 of the Federal Clean Water Act. As a means of compliance from each industrial user, subject to the requirements of Section 307 of the Federal Clean Water Act and shall forward to the Department a copy of periodic notice, over intervals not to exceed nine (9) months, of progress towards full compliance with Section 307 requirements.

**STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
AUGUST 15, 1994**

PART III – SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
 - a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
 - b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
 - c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
 - d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
 - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
 - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
 - c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after du process) be modified, or alternatively revoked and reissued, to comply with any applicable 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 the STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.

Where deemed appropriate, the department may require an individual site specific permit in order to authorize alternate limitations:

 - a. An individual permit must be obtained for each operating location, including application sites.
 - b. To request a site specific permit, an individual permit application, permit fees, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the department, as follows:
 - a. The department will prepare a permit modification and follow permit public notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owners of property located adjacent to each land application site, where appropriate.
 - b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.
11. Compliance Period
Compliance shall be achieved as expeditiously as possible but no later than the compliance dates under 40 CFR 503.2.

SECTION B – DEFINITIONS

1. Biosolids means an organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge. Untreated sludge or sludge that does not conform to the pollutants and pathogen treatment requirements in this permit is not considered biosolids.
2. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
3. 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 503.
4. 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 (PFRP) in accordance with 40 CFR 503.
5. 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 public owned treatment works (POTW) or privately owned facility.
6. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include unaerated wastewater treatment lagoons and constructed wetlands for wastewater treatment.
7. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
8. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the next growing season after biosolids application.
9. Sinkhole is a depression in the land surface into which surface water flows to join an underground drainage system.
10. Site Specific Permit is a permit that has alternate limits developed to address specific site conditions for each land application site or storage site.
11. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks.
12. Sludge lagoon is an earthen 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.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamp, marshes, bogs, and similar areas. Wetlands do not include constructed wetlands used for wastewater treatment.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from the wastewater treatment facilities and handled according to the permit facility description and sludge conditions in this permit.
2. The permittee shall operate the facility so that there is no sludge loss into the discharged effluent in excess of permit limits, no sludge bypassing, and no discharge of sludge to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

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

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the department; or the hauler transports the sludge to another permitted treatment facility.
3. The permittee shall require documentation from the contractor of the disposal methods used and permits obtained by the contractor.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility.

SECTION E – WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS

1. Sludge that is retained within a wastewater treatment lagoon is subject to sludge disposal requirements when the sludge is removed from the lagoon or when the lagoon ceases to receive and treat wastewater.
2. If sludge is removed during the year, an annual sludge report must be submitted.
3. Storm water retention basins or other earthen basins, which have been used as sludge storage for a mechanical treatment system is considered a sludge lagoon and must comply with Section G of this permit.

SECTION F – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
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 waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

SECTION G – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites shall comply with the requirements in 40 CFR 503 Subpart C, and solid waste disposal regulations under 10 CSR 80.
2. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions section of this permit.
3. Effective February 19, 1995, a sludge lagoon that has been in use for more than two years without removal of accumulated sludge, or that has not been properly closed shall comply with one of the following options:
 - a. Permittee shall obtain a site specific permit to address surface disposal requirements under 40 CFR 503, ground water quality regulations under 10 CSR 20, Chapter 7 and 8, and solid waste management regulations under 10 CSR 80;
 - b. Permittee shall clean out the sludge lagoon to remove any sludge over two years old and shall continue to remove accumulated sludge at least every two years or an alternate schedule approved under 40 CFR 503.20(b). In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the department; or
 - c. Permittee shall close the lagoon in accordance with Section 1.

SECTION H – LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the Facility Description or special conditions section of the permit.
2. This permit replaces and terminates all previous sludge management plan approvals by the department for land application of sludge or biosolids.
3. Land application sites within a 20 mile radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless a site specific permit is required under Section A, Subsection 9.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
 - a. This permit does not authorize the land application of sludge except when sludge meets the definition of biosolids.
 - b. This permit authorizes “Class A or B” biosolids derived from domestic wastewater sludges to be land applied onto grass land, crop land, timber land or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites.
Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the department. Applications for approval shall be in the form of an engineering report and shall address priority pollutants and dioxin concentrations. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site-specific permit.

6. Agricultural and Silvicultural Sites.

In addition to specified conditions herein, this permit is subject to the attached Water Quality Guides numbers WQ 422 through 426 published by the University of Missouri, and hereby incorporated as though fully set forth herein. The guide topics are as follows:

WQ 422	Land Application of Septage
WQ 423	Monitoring Requirements for Biosolids Land Application
WQ 424	Biosolids Standards for Pathogens and Vectors
WQ 425	Biosolids Standards for Metals and Other Trace Substances
WQ 426	Best Management Practices for Biosolids Land Applications

SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
 - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
 - b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. See WQ 423 and 424.
 - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works” definition. See WQ 422. 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 the 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 more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize 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 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed.
2. Testing for land application is listed under Section H, Subsection 6 of these standard conditions (see WQ 423). Once per year is the minimum test frequency. Additional testing shall be performed for each 100 dry tons of sludge generated or stored during the year.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the department.
4. Monitoring requirements shall be performed in accordance with, “POTW Sludge Sampling and Analysis Guidance Document”, United States Environmental Protection Agency, August 1989, and subsequent revisions.

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 these Standard Conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting Period
 - a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
 - b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the department or equivalent forms approved by the department.
4. Report shall be submitted as follows:
Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the department and EPA. Other facilities need to report only to the department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit
(See cover letter of permit)

EPA Region VII
Water Compliance Branch (WACM)
Sludge Coordinator
901 N 5th Street
Kansas City, KS 66101

5. Annual Report Contents. The annual report shall include the following:
 - a. Sludge/biosolids testing performed. Include a copy or summary of all test results, even if not required by this permit.
 - b. Sludge or Biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at end of year, and the quantity used 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.
 - (1) This must include the name, address and permit number for the hauler and the sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name and permit number of that facility.
 - (2) Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
 - f. Contract Hauler Activities.
If contract hauler, provide a copy of a signed contract or billing receipts 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 sludge disposal or biosolids use permit.
 - g. Land Application Sites.
 - (1) 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 legal description for nearest ¼, ¼, Section, Township, Range, and County, or as latitude and longitude.
 - (2) If biosolids application exceeds 2 dry tons/acre/year, report biosolids nitrogen results. Plant Available Nitrogen (PAN) in pounds/acre, crop nitrogen requirement, available nitrogen in the soil prior to biosolids application, and PAN calculations for each site.
 - (3) If the “Low Metals” criteria is exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative loading which has been reached at each site.
 - (4) Report the method used for compliance with pathogen and vector attraction requirements.
 - (5) Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
**FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES
 WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN
 100,000 GALLONS PER DAY**

FACILITY NAME MSD, Missouri River WWTF	
PERMIT NO. MO-0004391	COUNTY St. Louis

APPLICATION OVERVIEW

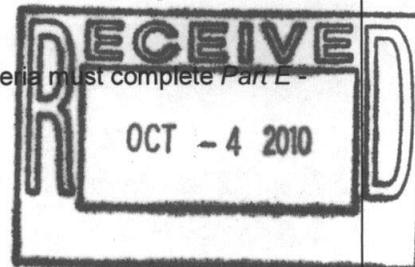
Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following 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

- A. Basic Application Information for all Applicants. All applicants must complete Part A.
- B. Additional Application Information for all Applicants. All applicants must complete Part B.
- C. Certification. All applicants must complete Part C.

SUPPLEMENTAL APPLICATION INFORMATION

- 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 *Part D - Expanded Effluent Testing Data*:
 - 1. Has a design flow rate greater than or equal to 1 million gallons per day.
 - 2. Is required to have or currently has a pretreatment program.
 - 3. Is otherwise required by the permitting authority to provide the information.
- E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete *Part E - Toxicity Testing Data*:
 - 1. Has a design flow rate greater than or equal to 1 million gallons per day.
 - 2. Is required to have or currently has a pretreatment program.
 - 3. Is otherwise required by the permitting authority to provide the information.
- 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 *Part F - Industrial User Discharges and Resource Conservation and Recovery Act / CERCLA Wastes*.
 SIUs are defined as:
 - 1. 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.
 - 2. Any other industrial user that 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 five 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.
- G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete *Part G - Combined Sewer Systems*.



ALL APPLICANTS MUST COMPLETE PARTS A, B and C

AP2427
C7224



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER # 607468	
DATE RECEIVED 10/5/10	FEE SUBMITTED \$2,200.00

(B)

PART A – BASIC APPLICATION INFORMATION

1. This application is for:

An operating permit and antidegradation review public notice.

A construction permit following an appropriate operating permit and antidegradation review public notice.

A construction permit, a concurrent operating permit and antidegradation review public notice.

A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).

An operating permit for a new or unpermitted facility. Construction Permit # _____

An operating permit renewal: Permit #MO- _____ Expiration Date _____

An operating permit modification: Permit #MO- _____ Reason: _____

1.1 Is this a Federal/State Funded Project? Yes No Funding Agency/Project #: C295564-01

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? Yes No

2. FACILITY

NAME MSD, Missouri River WWTF		TELEPHONE NUMBER WITH AREA CODE (314) 646-2420	
ADDRESS (PHYSICAL) 3455 Creve Coeur Mill Road	CITY Maryland Heights	STATE MO	ZIP 63146

2.1 **LEGAL DESCRIPTION** (Plant Site): SW ¼, SE ¼, ¼, Sec. 7, T 46N, R5E County St. Louis

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

3. OWNER

NAME Metropolitan St. Louis Sewer District		TELEPHONE NUMBER WITH AREA CODE (314) 768-6260	
ADDRESS 2350 Market Street	CITY St. Louis	STATE Missouri	ZIP 63103

3.1 Request review of draft permit prior to Public Notice? Yes No

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

NAME Metropolitan St. Louis Sewer District		CITY Maryland Heights	
ADDRESS 3455 Creve Coeur Mill Road	CERTIFICATE NUMBER (IF APPLICABLE) A-3809	STATE MO	ZIP 63146

5. OPERATOR

NAME Kenneth M. Gambaro, P.E.	TITLE Treatment Plant Manager	TELEPHONE NUMBER WITH AREA CODE (314) 646-2421
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6. FACILITY CONTACT

NAME Kenneth M. Gambaro, P.E.	TITLE Treatment Plant Manager
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MO 780-1805 (08-08)

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 005, 006; 007
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PART A – BASIC APPLICATION INFORMATION

7. ADDITIONAL FACILITY INFORMATION

7.1 BRIEF DESCRIPTION OF FACILITIES

See attached 7.1

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. (YOU MAY SUBMIT MORE THAN ONE MAP IF ONE MAP DOES NOT SHOW THE ENTIRE AREA.)

- 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, or 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. See attached 7.2

7.3 PROCESS FLOW DIAGRAM OR SCHEMATIC. PROVIDE A DIAGRAM SHOWING THE PROCESSES OF THE TREATMENT PLANT. ALSO, PROVIDE A WATER BALANCE SHOWING ALL TREATMENT UNITS, INCLUDING DISINFECTION (E.G. CHLORINATION AND DECHLORINATION). THE WATER BALANCE MUST SHOW DAILY AVERAGE FLOW RATES AT INFLUENT AND DISCHARGE POINTS AND APPROXIMATE DAILY FLOW RATES BETWEEN TREATMENT UNITS. INCLUDE A BRIEF NARRATIVE DESCRIPTION OF THE DIAGRAM. See attached 7.3

7.4 FACILITY SIC CODE 4952	DISCHARGE SIC CODE: 4952	FACILITY NAICS CODE: 221320	DISCHARGE NAICS CODE: 221320
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7.5 NUMBER OF SEPARATE DISCHARGE POINTS
3 (005 - emergency overflow, 006 - storm water; 007 - POTW)

7.6 NUMBER OF PEOPLE PRESENTLY CONNECTED OR POPULATION EQUIVALENT
280,000 (PE at current design flow 28 MGD)

DESIGN POPULATION EQUIVALENT
380,000 (PE at new design flow 38 MGD)

NUMBER OF UNITS PRESENTLY CONNECTED

HOMES	APARTMENTS	TRAILERS	OTHER
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TOTAL DESIGN FLOW (ALL OUTFALLS) #005 - emergency overflow, #006 - stormwater; #007 - POTW 38 MGD (new design flow)	ACTUAL FLOW #007 - 29.1 MGD
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7.7 DOES ANY BYPASSING OCCUR ANYWHERE IN THE COLLECTION SYSTEM OR AT THE TREATMENT FACILITY?
Yes No (If Yes, attach an explanation.) See attached 7.7

7.8 LENGTH OF THE SANITARY SEWER COLLECTION SYSTEM IN MILES
1005

7.9 IS INDUSTRIAL WASTE DISCHARGED TO THE FACILITY IDENTIFIED IN ITEM 2? Yes No

7.10 WILL THE DISCHARGE BE CONTINUOUS THROUGH THE YEAR? Yes No

A. DISCHARGE WILL OCCUR DURING THE FOLLOWING MONTHS January - December	B. HOW MANY DAYS OF THE WEEK WILL THE DISCHARGE OCCUR? Seven
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7.11 IS WASTEWATER LAND APPLIED? (If Yes, Attach Form I) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	7.12 DOES THIS FACILITY DISCHARGE TO A LOSING STREAM OR SINKHOLE? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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7.13 HAS A WASTE LOAD ALLOCATION STUDY BEEN COMPLETED FOR THIS FACILITY?
Yes No

7.14 LIST ALL PERMIT VIOLATIONS, INCLUDING EFFLUENT LIMIT EXCEEDANCES IN THE LAST FIVE YEARS. ATTACH A SEPARATE SHEET IF NECESSARY. IF NONE, WRITE NONE. See attached 7.14

8. LABORATORY CONTROL INFORMATION

8.1 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 checked="" type="checkbox"/>	No <input type="checkbox"/>
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Attachment 7.1

Outfall #003 – (Discharge eliminated)

Outfall #005

Emergency Overflow. Emergency diversion from the influent structure.

Outfall #006

Storm water runoff. No treatment.

Outfall #007

Coarse bar screen for the Bonfils influent line/six fine screens/four grit chambers/four preaeration basins/four primary clarifiers/six aeration tanks/six secondary clarifiers/UV disinfection/Four-cell peak flow storage basin; anaerobic digestion/sludge thickening/sludge dewatering/sludge disposal via hauling for land application, composting, incineration or landfill; odor control

Design population equivalent is 380,000.

Design flow is 38 million gallons per day (MGD).

Actual flow is 29.1 MGD.

Actual sludge production is 3,300 dry tons per year.

Missouri River Wastewater Treatment Plant



B2 Application Attachment



Missouri
Department of
Natural Resources

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.

Attachment 7.3 Brief Narrative

The MSD, Missouri River WWTF was rehabbed and modified from 2006 through 2010. These upgrades included a new headworks and peak flow storage basin.

The proposed expansion will include replacement of the existing trickling filter treatment system with an activated sludge process and the addition of effluent disinfection. The new design flow is 38 MGD.

Proposed improvements include the following:

Low lift pump station

Aeration basins

Blower building

Sludge pumping station

Solids handling building and sludge storage

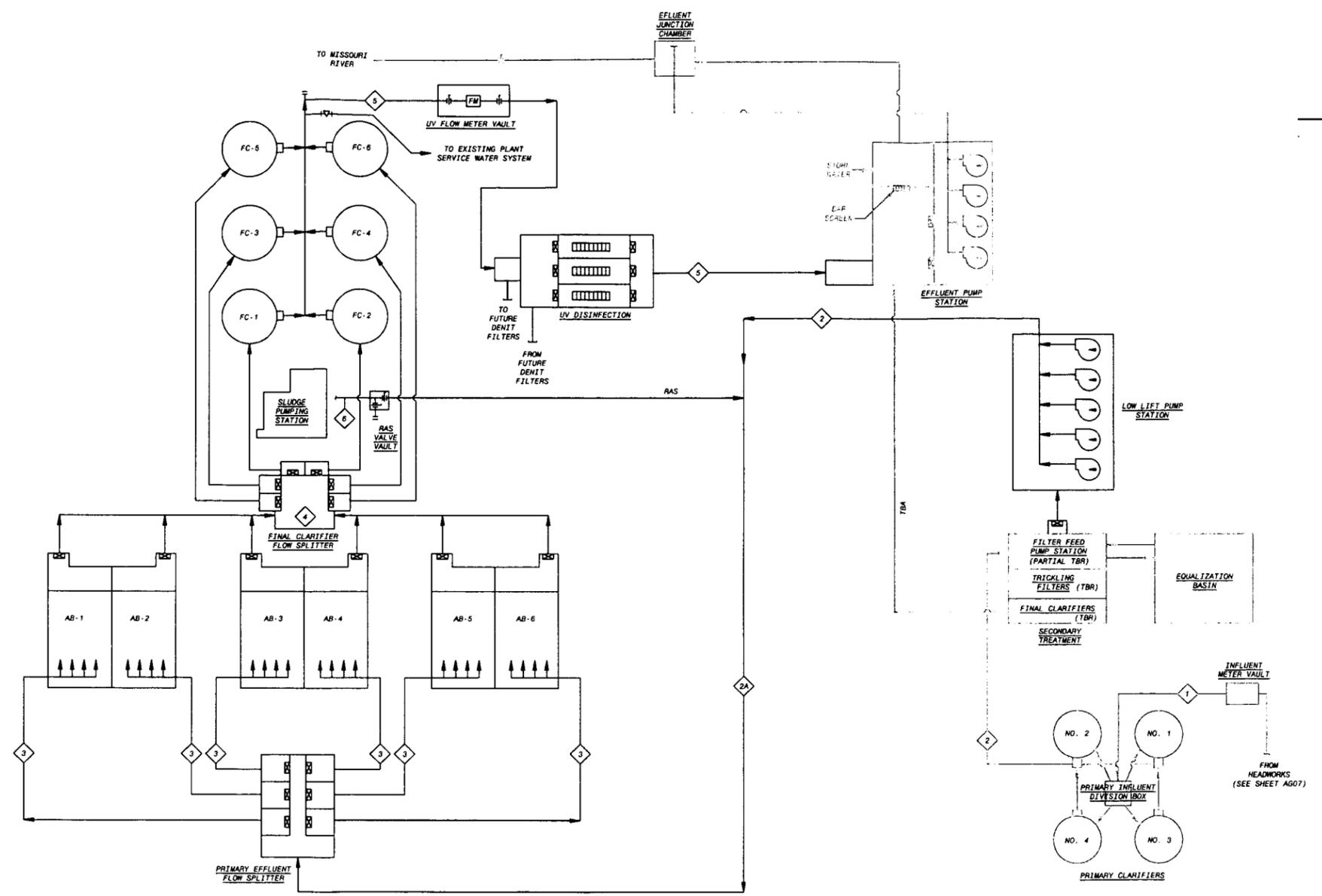
Additional anaerobic digester

UV disinfection

Replacement of final clarifiers and effluent pumps

Demolition of existing trickling filters, final clarifiers, and solids handling building

See attached 7.3-1



Flow enters the plant through three force mains into an inlet structure. The Bonfils force main goes through a coarse screen prior to this structure. Flow is then routed to the fine screens and then the grit chambers. The fine screens and grit chambers are designed to handle a peak wet weather flow of 190 MGD; flow above 80 MGD is diverted to the peak flow storage basins which will eventually be returned to the head of the plant for full treatment. After the grit process, flow goes through preaeration channels prior to the primary clarifiers. Flow will be pumped from a low lift pump station to the aeration basins for secondary treatment and then will flow by gravity to the final clarifiers before ultraviolet disinfection and discharge to the Missouri River. Effluent pumping is needed during high river conditions.

PLANT FLOW RANGE (MGD)

	PRIMARY INFLUENT ①	PRIMARY EFFLUENT ②	PRIMARY EFFLUENT & RAS ②A	AERATION BASIN INFLUENT ③	AERATION BASIN EFFLUENT ④	FINAL CLARIFIER/UV EFFLUENT ⑤	PEAK RAS ⑥
START-UP AVG DAY FLOW	28.5	28.5	57	9.5	57.0	28.5	28.5 (100% RETURN)
FUTURE AVG DAY FLOW (2030)	38	38	76	12.7	76	38	38 (100% RETURN)
PEAK FLOW	80	80	118	19.7	118	80	38 (48% RETURN)

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0 1/2 1
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE
 B&V PROJECT 145784

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REV.	DATE	DESCRIPTION	BY
METROPOLITAN ST. LOUIS SEWER DISTRICT MISSOURI RIVER WWTP SECONDARY TREATMENT EXPANSION AND DISINFECTION FACILITIES 10710-015.1 (2006168A) MARYLAND HEIGHTS, ST. LOUIS COUNTY, MISSOURI GENERAL PROCESS SECONDARY TREATMENT SCHEMATIC			
Designed	GMG		
Drawn	JAB		
Checked	JWB		
Date	10/01/2010		
Sheet No.	5 of 484		

SAVED: BOW4813_9/27/2010 7:30:50 AM
 145784-3000A-C-H0000985
 FC145784
 CT45784A

Attachment 7.7

MSD is conducting SSES investigations, capacity investigations and master planning to evaluate feasible wet weather peak flow management alternatives.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 005
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PART B – ADDITIONAL APPLICATION INFORMATION

20. INFLOW AND INFILTRATION

ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION.

Gallons Per Day **See Outfall 007**

BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION.

See Outfall 007

20.1 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 A 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

MAILING ADDRESS

TELEPHONE NUMBER WITH AREA CODE

RESPONSIBILITIES OF CONTRACTOR

20.2 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. (IF NONE, GO TO QUESTION B-20.3.)

A. List the outfall number that is covered by this implementation schedule Outfall No.	B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies. Yes <input type="checkbox"/> No <input type="checkbox"/>
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20.3 WASTEWATER DISCHARGES:
COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.

20.4 DESCRIPTION OF OUTFALL Emergency overflow. No treatment

OUTFALL NUMBER 005

A. LOCATION
 ¼ SE ¼ SE ¼ Section 7 Township 46N Range 5 E W
 UTM Coordinates Easting (X): Northing (Y):
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

B. Distance from Shore (If Applicable) <u> </u> ft.	C. Depth Below Surface (If Applicable) <u> </u> ft.	D. Average Daily Flow Rate <u>0</u> mgd
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E. Does this outfall have either an intermittent or periodic discharge?
 Yes No If Yes, Provide the following information:

Number of Days Per Year Discharge Occurs: <u><1</u>	Average Duration of Each Discharge:	Average Flow Per Discharge: mgd	Months in Which Discharge Occurs: Emergency overflow
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Is Outfall Equipped with a Diffuser? Yes No

20.5 DESCRIPTION OF RECEIVING WATER

B. Name of Receiving Water
Creve Coeur Creek

B. Name of Watershed (If Known) Missouri River	U.S. Soil Conservation Service 14-Digit Watershed Code (If Known) 10300200-000311
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B. Name of State Management/River Basin (If Known) Missouri River Mainstem	U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known) 10300200
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B. Critical Flow of Receiving Stream (If Applicable) Acute <u> </u> cfs Chronic <u> </u> cfs 7Q10 2.3 cfs	B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of CaCO ₃
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MO 780-1805 (08-08)

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO- 0004391	OUTFALL NO. 005
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PART B – ADDITIONAL APPLICATION INFORMATION (CONTINUED)

20.6 DESCRIPTION OF TREATMENT

A. What Levels of Treatment are Provided? Check All That Apply
 Primary Secondary Advanced Other (Describe)

B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE)
Design BOD₅ Removal Or Design CBOD₅ Removal _____% Design SS Removal _____%
Design P Removal _____% Design N Removal _____% Other _____%

C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:
None

If disinfection is by chlorination, is dechlorination used for this outfall? Yes No

Does the treatment plant have post aeration? Yes No

20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. 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.

OUTFALL NUMBER 005

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	VALUE	UNITS	VALUE	UNITS	NO. OF SAMPLES
pH (Minimum)	7.5	S.U.		S.U.	1
pH (Maximum)	7.5	S.U.		S.U.	1
FLOW RATE (instantaneous estimate)	2.0	MGD		MGD	1
TEMPERATURE (Winter)	6.1	°C		°C	1
TEMPERATURE (Summer)		°C		°C	

*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	NO. OF SAMPLES		

Conventional and Nonconventional Compounds

BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD ₅	26	mg/L	mg/L	1	5210B	<1
	CBOD ₅		mg/L	mg/L			
FECAL COLIFORM			#/100 mL	#/100 mL			
TOTAL SUSPENDED SOLIDS (TSS)	156		mg/L	mg/L	1	9222D and B.5C	1
AMMONIA (AS N)			mg/L	mg/L			
CHLORINE (TOTAL RESIDUAL, TRC)			mg/L	mg/L			
DISSOLVED OXYGEN			mg/L	mg/L			
TOTAL KJELDAHL NITROGEN (TKN)			mg/L	mg/L			
NITRATE PLUS NITRITE NITROGEN			mg/L	mg/L			
OIL AND GREASE			mg/L	mg/L			
PHOSPHORUS (TOTAL)			mg/L	mg/L			
TOTAL DISSOLVE SOLIDS (TDS)			mg/L	mg/L			
OTHER			mg/L	mg/L			

END OF PART B

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL			
FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 006	
PART B – ADDITIONAL APPLICATION INFORMATION			
20. INFLOW AND INFILTRATION			
ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION. Gallons Per Day See Outfall 007			
BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION. See Outfall 007			
20.1 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 A CONTRACTOR? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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			
MAILING ADDRESS			
TELEPHONE NUMBER WITH AREA CODE			
RESPONSIBILITIES OF CONTRACTOR			
20.2 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. (IF NONE, GO TO QUESTION B-20.3.)			
A. List the outfall number that is covered by this implementation schedule Outfall No.		B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies. Yes <input type="checkbox"/> No <input type="checkbox"/>	
20.3 WASTEWATER DISCHARGES: COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.			
20.4 DESCRIPTION OF OUTFALL Storm water runoff. No treatment.			
OUTFALL NUMBER <u>006</u>			
A. LOCATION ¼ <u>SE</u> ¼ <u>SE</u> ¼ <u> </u> Section <u>7</u> Township <u>46N</u> Range <u>5</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W UTM Coordinates Easting (X): <u> </u> Northing (Y): <u> </u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)			
B. Distance from Shore (If Applicable) <u> </u> ft.		C. Depth Below Surface (If Applicable) <u> </u> ft.	D. Average Daily Flow Rate <u> </u> mgd
E. Does this outfall have either an intermittent or periodic discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide the following information:			
Number of Days Per Year Discharge Occurs: Storm water runoff	Average Duration of Each Discharge:	Average Flow Per Discharge: mgd	Months in Which Discharge Occurs: Storm water
Is Outfall Equipped with a Diffuser? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
20.5 DESCRIPTION OF RECEIVING WATER			
B. Name of Receiving Water Missouri River			
B. Name of Watershed (If Known) Missouri River		U.S. Soil Conservation Service 14-Digit Watershed Code (If Known) 10300200-000011	
B. Name of State Management/River Basin (If Known) Missouri River Mainstem		U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known) 10300200	
B. Critical Flow of Receiving Stream (If Applicable) Acute <u> </u> cfs Chronic <u> </u> cfs 7Q10 18,593 cfs		B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of CaCO₃	

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL			
FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007	
PART B – ADDITIONAL APPLICATION INFORMATION			
20. INFLOW AND INFILTRATION			
ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION. Gallons Per Day MSD is currently performing flow monitoring to determine the amount of I/I in the sewer system.			
BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION. MSD is currently performing investigations to determine the sources and cost to reduce I/I.			
20.1 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 A CONTRACTOR? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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			
MAILING ADDRESS			
TELEPHONE NUMBER WITH AREA CODE			
RESPONSIBILITIES OF CONTRACTOR			
20.2 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. (IF NONE, GO TO QUESTION B-20.3.) See attached 20.2			
A. List the outfall number that is covered by this implementation schedule Outfall No. 007		B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies. Yes <input type="checkbox"/> No <input type="checkbox"/>	
20.3 WASTEWATER DISCHARGES: COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.			
20.4 DESCRIPTION OF OUTFALL POTW			
OUTFALL NUMBER 007			
A. LOCATION ¼ SE ¼ SE ¼ Section 7 Township 46N Range 5 <input checked="" type="checkbox"/> E <input type="checkbox"/> W UTM Coordinates Easting (X): Northing (Y): For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)			
B. Distance from Shore (If Applicable) ft.		C. Depth Below Surface (If Applicable) ft.	D. Average Daily Flow Rate 29.1 mgd
E. Does this outfall have either an intermittent or periodic discharge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Provide the following information:			
Number of Days Per Year Discharge Occurs:	Average Duration of Each Discharge:	Average Flow Per Discharge: mgd	Months in Which Discharge Occurs:
Is Outfall Equipped with a Diffuser? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
20.5 DESCRIPTION OF RECEIVING WATER			
B. Name of Receiving Water Missouri River			
B. Name of Watershed (If Known) Missouri River		U.S. Soil Conservation Service 14-Digit Watershed Code (If Known) 10300200-000011	
B. Name of State Management/River Basin (If Known) Missouri River Mainstem		U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known) 10300200	
B. Critical Flow of Receiving Stream (If Applicable) Acute cfs Chronic cfs 7Q10 18,593 cfs		B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of CaCO ₃	

Attachment 20.2 Scheduled Improvements and Schedules of Implementation

The proposed expansion will include replacement of the existing trickling filter treatment system with an activated sludge process and the addition of effluent disinfection. The new design flow is 38 MGD.

Proposed improvements include the following:

Low lift pump station

Aeration basins

Blower building

Sludge pumping station

Solids handling building and sludge storage

Additional anaerobic digester

UV disinfection

Replacement of final clarifiers and effluent pumps

Demolition of existing trickling filters, final clarifiers, and solids handling building

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007
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PART B – ADDITIONAL APPLICATION INFORMATION (CONTINUED)

20.6 DESCRIPTION OF TREATMENT

A. What Levels of Treatment are Provided? Check All That Apply
 Primary Secondary Advanced Other (Describe)

B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE)
 Design BOD₅ Removal Or Design CBOD₅ Removal $\geq 85\%$ Design SS Removal $\geq 85\%$
 Design P Removal ___% Design N Removal ___% Other ___%

C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:
 UV disinfection

If disinfection is by chlorination, is dechlorination used for this outfall? Yes No

Does the treatment plant have post aeration? Yes No

20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. 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.

OUTFALL NUMBER 007

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	VALUE	UNITS	VALUE	UNITS	NO. OF SAMPLES
pH (Minimum)	6.6	S.U.		S.U.	366
pH (Maximum)	8.3	S.U.		S.U.	366
FLOW RATE	64.3	MGD	29.1	MGD	366
TEMPERATURE (Winter)	16.7	°C	13.8	°C	91
TEMPERATURE (Summer)	23.9	°C	22.7	°C	92

*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	NO. OF SAMPLES		

Conventional and Nonconventional Compounds							
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD ₅		mg/L		mg/L		
	CBOD ₅	24	mg/L	13	mg/L	262	5210B <1
FECAL COLIFORM			#/100 mL		#/100 mL		
TOTAL SUSPENDED SOLIDS (TSS)	38		mg/L	19	mg/L	262	9222D and B.5C 1
AMMONIA (AS N)	19.0		mg/L	13.8	mg/L	12	2540D&E 0.622
CHLORINE (TOTAL RESIDUAL, TRC)			mg/L		mg/L		
DISSOLVED OXYGEN			mg/L		mg/L		
TOTAL KJELDAHL NITROGEN (TKN)	24.6		mg/L	19.2	mg/L	4	Midi Distillation Method 0.56
NITRATE PLUS NITRITE NITROGEN	4.1		mg/L	2.1	mg/L	4	Pocket Colorimeter Spectrophotometer DPD 0.03
OIL AND GREASE	6		mg/L	2.3	mg/L	12	1664A-N-Hexane 0.8
PHOSPHORUS (TOTAL)	2.7		mg/L	1.4	mg/L	4	EPA Method 365.3 0.01
TOTAL DISSOLVE SOLIDS (TDS)			mg/L		mg/L		
OTHER			mg/L		mg/L		

END OF PART B

PART C - CERTIFICATION

30. CERTIFICATION

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.

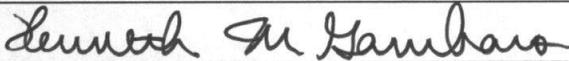
ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information 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.

PRINTED NAME AND OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)

Kenneth M. Gambaro, Treatment Plant Manager

SIGNATURE



TELEPHONE NUMBER WITH AREA CODE

(314) 646-2421

DATE SIGNED

9/28/10

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.

For Design Flows Less than 1 Million Gallons Per Day,
Send Completed Form to:

Appropriate Regional Office

Map of regional offices with addresses and phone numbers is available on the Web at www.dnr.mo.gov/regions/ro-map.pdf.

For Design Flows of 1 Million Gallons Per Day or Greater,
Send Completed Form to:

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

END OF PART C.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

Do not complete the remainder of this application, unless:

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.

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.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007
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PART D – EXPANDED EFFLUENT TESTING DATA

40. EXPANDED EFFLUENT TESTING DATA

Refer to the supplemental application information to determine whether Part D applies to the treatment works.

40.1 EFFLUENT TESTING: 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 ON 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. INDICATE IN THE BLANK ROWS PROVIDED BELOW ANY DATA YOU MAY HAVE ON POLLUTANTS NOT SPECIFICALLY LISTED IN THIS FORM. EFFLUENT TESTING MUST NOT BE MORE THAN FOUR AND ONE-HALF YEARS OLD.

OUTFALL NUMBER (Complete Once for Each Outfall Discharging Effluent to Waters of the State.) #007 - See attached 40.1 - Metals

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

ANTIMONY												
ARSENIC												
BERYLLIUM												
CADMIUM												
CHROMIUM												
COPPER												
LEAD												
MERCURY												
NICKEL												
SELENIUM												
SILVER												
THALLIUM												
ZINC												
CYANIDE												
TOTAL PHENOLIC COMPOUNDS												
HARDNESS (as CaCO ₃)												

USE THIS SPACE (OR A SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER METALS REQUESTED BY THE PERMIT WRITER.

Attached 40.1 - Metals

Metals	Max	Units	Average	Units	# of Samples	Method	PQL [mg/L]
Arsenic	< 0.002	mg/L	<0.002	mg/L	4	ICP	< 0.002
Beryllium	0.003	mg/L	0.0025	mg/L	2	ICP	< 0.002
Cadmium	0.0001	mg/L	0.0001	mg/L	4	ICP	< 0.0001
Chromium	< 0.002	mg/L	<0.008	mg/L	4	ICP	< 0.003
Copper	0.023	mg/L	0.017	mg/L	2	ICP	< 0.003
Lead	< 0.005	mg/L	<0.005	mg/L	4	ICP	< 0.005
Mercury	0.0003	mg/L	0.0002	mg/L	2	ICP	< 0.0001
Nickel	< 0.009	mg/L	<0.009	mg/L	2	ICP	< 0.009
Selenium	< 0.002	mg/L	<0.002	mg/L	2	ICP	< 0.002
Silver	< 0.002	mg/L	<0.002	mg/L	2	ICP	< 0.002
Zinc	0.047	mg/L	0.0415	mg/L	2	ICP	< 0.007
Cyanide	< 0.004	mg/L	<0.004	mg/L	3	ICP	< 0.004
Total Phenolic Compounds	0.2	mg/L	0.17	mg/L	2	ICP	< 0.1

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO- 0004391	OUTFALL NO. 007
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PART D – EXPANDED EFFLUENT TESTING DATA (CONTINUED)

40.1 EXPANDED EFFLUENT TESTING DATA (CONTINUED)

#007 - See attached 40.1 - VOC

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		
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CHLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL 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-TETRACHLOROETHANE											
TETRACHLORO-ETHANE											
TOLUENE											
3,4-BENZO-FLUORANTHENE											
BENZO(GH) PHERYLENE											
BENZO(K) FLUORANTHENE											

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO- 0004391	OUTFALL NO. 007
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PART D – EXPANDED EFFLUENT TESTING DATA (CONTINUED)

40.1 EXPANDED EFFLUENT TESTING DATA (CONTINUED)

Complete Once for Each Outfall Discharging Effluent to Waters of the State. #007 - See attached 40.1 - VOC

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL	
	CONC	UNITS	MASS	UNITS	CONC	UNITS	MASS	UNITS	NO. OF SAMPLES			
BIS (2-CHLOROTHOXY) METHANE												
BIS (2-CHLOROETHYL) – ETHER												
BIS (2-ETHYLHEXYL) PHTHALATE												
4-BROMOPHENYL PHENYL ETHER												
BUTYL BENZYL PHTHALATE												
2-CHLORONAPH-THALENE												
4-CHLORPHENYL PHENYL ETHER												
CHRYSENE												
DI-N-BUTYL PHTHALATE												
DEBENZO (A,H) ANTHRACENE												
1,2-DICHLORO-BENZENE												
1,3-DICHLORO-BENZENE												
1,4-DICHLORO-BENZENE												
3,3-DICHLORO-BENZIDINE												
DIETHYL PHTHALATE												
DIMETHYL PHTHALATE												
2,4-DINITRO-TOLUENE												
2,6-DINITRO-TOLUENE												
1,2-DIPHENYL-HYDRAZINE												
1,1,1-TRICHLORO-ETHANE												
1,1,2-TRICHLORO-ETHANE												
TRICHLORETHYLENE												
VINYL CHLORIDE												

USE THIS SPACE (OR A SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER VOLATILE ORGANIC COMPOUNDS REQUESTED BY THE PERMIT WRITER

Volatile Organic Compounds	Concentration	Units	# of Samples	Attached 40.1 - VOC Analytical	
				Method	PQL [mg/L]
ACROLEIN	< 0.0052	mg/L	1	603	< 0.0052
ACRYLONITRILE	< 0.0043	mg/L	1	603	< 0.0043
BENZENE	< 0.0013	mg/L	1	624	< 0.0013
BROMOFORM	< 0.0018	mg/L	1	624	< 0.0018
CARBON TETRACHLORIDE	< 0.0023	mg/L	1	624	< 0.0023
CHLOROBENZENE	< 0.0016	mg/L	1	624	< 0.0016
DIBROMOCHLOROMETHANE	< 0.0023	mg/L	1	624	< 0.0023
CHLOROETHANE	< 0.011	mg/L	1	624	< 0.011
2 CHLOROETHYL VINYL ETHER	< 0.0032	mg/L	1	624	< 0.0032
CHLOROFORM	< 0.0014	mg/L	1	624	< 0.0014
BROMODICHLOROMETHANE	< 0.0031	mg/L	1	624	< 0.0031
1,1-DICHLOROETHANE	< 0.0012	mg/L	1	624	< 0.0012
1,2-DICHLOROETHANE	< 0.0041	mg/L	1	624	< 0.0041
TRANS-1,2-DICHLOROETHENE	< 0.0022	mg/L	1	624	< 0.0022
1,1-DICHLOROETHENE	< 0.0018	mg/L	1	624	< 0.0018
1,2-DICHLOROPROPANE	< 0.0065	mg/L	1	624	< 0.0065
CIS AND TRANS 1,3-DICHLOROPROPENE	< 0.0021	mg/L	1	624	< 0.0021
ETHYLBENZENE	< 0.001	mg/L	1	624	< 0.001
BROMOMETHANE	< 0.0024	mg/L	1	624	< 0.0024
CHLOROMETHANE	< 0.0029	mg/L	1	624	< 0.0029
METHYLENE CHLORIDE	< 0.0012	mg/L	1	624	< 0.0012
1,1,2,2-TETRACHLOROETHANE	< 0.0028	mg/L	1	624	< 0.0028
TETRACHLOROETHENE	< 0.002	mg/L	1	624	< 0.002
TOLUENE	< 0.0016	mg/L	1	624	< 0.0016
BENZO(B)FLUORANTHENE	< 0.0022	mg/L	1	625	< 0.0022
BENZO(G,H,I)PERYLENE	< 0.0019	mg/L	1	625	< 0.0019
BENZO(K)FLUORANTHENE	< 0.0021	mg/L	1	625	< 0.0021
BIS(2-CHLOROETHOXY)METHANE	< 0.0026	mg/L	1	625	< 0.0026
BIS(2-CHLOROETHYL)ETHER	< 0.003	mg/L	1	625	< 0.003
BIS(2-ETHYLHEXYL)PHTHALATE	0.0039	mg/L	1	625	< 0.0031
4-BROMOPHENYL PHENYL ETHER	< 0.0024	mg/L	1	625	< 0.0024
2-CHLORONAPHTHALENE	< 0.0016	mg/L	1	625	< 0.0016
4-CHLOROPHENYL PHENYL ETHER	< 0.0018	mg/L	1	625	< 0.0018
CHRYSENE	< 0.0026	mg/L	1	625	< 0.0026
DI-N-BUTYL PHTHALATE	< 0.0025	mg/L	1	625	< 0.0025
DIBENZO(A,H)ANTHRACENE	< 0.002	mg/L	1	625	< 0.002
1,2-DICHLOROBENZENE	< 0.0012	mg/L	1	624	< 0.0012
1,3-DICHLOROBENZENE	< 0.0015	mg/L	1	624	< 0.0015
1,4-DICHLOROBENZENE	< 0.0009	mg/L	1	624	< 0.0009
3,3-DICHLOROBENZIDINE	< 0.0072	mg/L	1	625	< 0.0072
DIETHYL PHTHALATE	< 0.0027	mg/L	1	625	< 0.0027
DIMETHYL PHTHALATE	< 0.0017	mg/L	1	625	< 0.0017
2,4-DINITROTOLUENE	< 0.0031	mg/L	1	625	< 0.0031
2,6-DINITROTOLUENE	< 0.0036	mg/L	1	625	< 0.0036
1,2-DIPHENYLHYDRAZINE	< 0.0027	mg/L	1	625	< 0.0027
1,1,1-TRICHLOROETHANE	< 0.0023	mg/L	1	624	< 0.0023
1,1,2-TRICHLOROETHANE	< 0.0011	mg/L	1	624	< 0.0011
TRICHLOROETHENE	< 0.0024	mg/L	1	624	< 0.0024
VINYL CHLORIDE	< 0.0016	mg/L	1	624	< 0.0016

Acid-Extractable Compounds	Concentration	Units	# of Samples	Attached 40.1 - Acid Analytical	
				Method	PQL [mg/L]
4-CHLORO-3-METHYLPHENOL	< 0.0028	mg/L	1	625	< 0.0028
2-CHLOROPHENOL	< 0.0024	mg/L	1	625	< 0.0024
2,4-DICHLOROPHENOL	< 0.0023	mg/L	1	625	< 0.0023
2,4-DIMETHYLPHENOL	< 0.0027	mg/L	1	625	< 0.0027
4,6-DINITRO-2-METHYLPHENOL	< 0.0349	mg/L	1	625	< 0.0349
2,4-DINITROPHENOL	< 0.0691	mg/L	1	625	< 0.0691
2-NITROPHENOL	< 0.0025	mg/L	1	625	< 0.0025
4-NITROPHENOL	< 0.0038	mg/L	1	625	< 0.0038
PENTACHLOROPHENOL	< 0.0168	mg/L	1	625	< 0.0168
PHENOL	< 0.0008	mg/L	1	625	< 0.0008
2,4,6-TRICHLOROPHENOL	< 0.0031	mg/L	1	625	< 0.0031

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007
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PART D – EXPANDED EFFLUENT TESTING DATA (CONTINUED)

40.1 EXPANDED EFFLUENT TESTING DATA (CONTINUED) #007 - See attached 40.1 - Base

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	CONC	UNITS	MASS	UNITS	CONC	UNITS	MASS	UNITS	NO. OF SAMPLES		
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											
FLUORANTHENE											
FLUORENE											
HEXACHLOROENZENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO (1,2,3-CD) PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-PROPYLAMINE											
N-NITROSODI-METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROENZENE											

USE THIS SPACE (OR SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER BASE-NEUTRAL COMPOUNDS REQUESTED BY THE PERMIT WRITER.

END OF PART D
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

Base-Extractable Compounds		Units	# of Samples	Attached 40.1 - Base Analytical	
				Method	PQL [mg/L]
ACENAPHTHYLENE	< 0.002	mg/L	1	625	< 0.002
ACENAPHTHENE	< 0.0015	mg/L	1	625	< 0.0015
ANTHRACENE	< 0.0022	mg/L	1	625	< 0.0023
BENZIDINE	< 0.0286	mg/L	1	625	< 0.0286
BENZO(A)ANTHRACENE	< 0.0025	mg/L	1	625	< 0.0025
BENZO(A)PYRENE	< 0.0018	mg/L	1	625	< 0.0018
FLUORANTHENE	< 0.0041	mg/L	1	625	< 0.0041
FLUORENE	< 0.0021	mg/L	1	625	< 0.0021
HEXACHLOROBENZENE	< 0.0035	mg/L	1	625	< 0.0035
HEXACHLOROCYCLOPENTADIENE	< 0.0017	mg/L	1	625	< 0.0017
HEXACHLOROETHANE	< 0.002	mg/L	1	625	< 0.002
INDENO (1,2,3-CD) PYRENE	< 0.0021	mg/L	1	625	< 0.0021
ISOPHORONE	< 0.0028	mg/L	1	625	< 0.0028
NAPHTHALENE	< 0.0017	mg/L	1	625	< 0.0017
NITROBENZENE	< 0.0029	mg/L	1	625	< 0.0029
N-NITROSODIMETHYLAMINE	< 0.002	mg/L	1	625	< 0.002
N-NITROSODIPHENYLAMINE	< 0.0055	mg/L	1	625	< 0.0055
PHENANTHRENE	< 0.0019	mg/L	1	625	< 0.0019
PYRENE	< 0.0046	mg/L	1	625	< 0.0046
1,2,4-TRICHLOROBENZENE	< 0.0019	mg/L	1	625	< 0.0019

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.			
FACILITY NAME MSD, Missouri River WWTF		PERMIT NO. MO-0004391	OUTFALL NO. 007
PART E – TOXICITY TESTING DATA			
50. TOXICITY TESTING DATA			
Refer to the Supplemental Application Information 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.			
<p>A. POTWS with a design flow rate greater than or equal to 1 million gallons per day.</p> <p>B. POTWS with a pretreatment program (or those that are required to have one under 40 CFR Part 403).</p> <p>C. POTWS required by the permitting authority to submit data for these parameters</p> <ul style="list-style-type: none"> ◆ 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. 			
50.1 REQUIRED TESTS. INDICATE THE NUMBER OF WHOLE EFFLUENT TOXICITY TESTS CONDUCTED IN THE PAST FOUR AND ONE-HALF YEARS.			
CHRONIC		ACUTE 9	
INDIVIDUAL TEST DATA. Complete the following chart for the last three whole effluent toxicity tests. Allow one column per test (where each species constitutes a 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 NUMBER	10018269-1	09078268-1	09018041-1
TEST SPECIES AND TEST METHOD NUMBER	2000.0 / 2002.0	2000.0 / 2002.0	2000.0 / 2002.0
AGE AT INITIATION OF TEST	< 24 hr / 1 - 14 days	< 24 hr / 1 - 14 days	< 24 hr / 1 - 14 days
OUTFALL NUMBER	007	007	007
DATES SAMPLE COLLECTED	01/18/10 1030 - 01/19/10 1030	07/13/09 1000 - 07/14/09 1000	02/11/09 0425
DATE TEST STARTED	1/20/2010	07/15/2009	02/11/2009
DURATION	48 hrs	48 hrs	48 hrs
B. GIVE TOXICITY TEST METHODS FOLLOWED			
MANUAL TITLE	US EPA 600/4-90/027	US EPA 600/4-90/027	US EPA 600/4-90/027
EDITION NUMBER AND YEAR OF PUBLICATION	Fifth Ed. Oct. 2002	Fifth Ed. Oct. 2002	Fifth Ed. Oct. 2002
PAGE NUMBER(S)			
C. GIVE THE SAMPLE COLLECTION METHOD(S) USED. FOR MULTIPLE GRAB SAMPLES, INDICATE THE NUMBER OF GRAB SAMPLES USED.			
24-HOUR COMPOSITE	x	x	x
GRAB			
D. INDICATE WHERE THE SAMPLE WAS TAKEN IN RELATION TO DISINFECTION. (CHECK ALL THAT APPLY FOR EACH)			
BEFORE DISINFECTION	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" 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	Effluent	Effluent	Effluent
F. FOR EACH TEST, INCLUDE 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G. PROVIDE THE TYPE OF TEST PERFORMED			
STATIC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STATIC 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			
RECEIVING WATER	Upstream	Upstream	Upstream

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007
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PART E – TOXICITY TESTING DATA (CONTINUED)

50.1 WHOLE EFFLUENT TOXICITY TESTS DATA (CONTINUED)

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
I. TYPE OF DILUTION WATER, IF SALT WATER, SPECIFY "NATURAL" OR TYPE OF ARTIFICIAL SEA SALTS OR BRINE USED.			
FRESH WATER	x	x	x
SALT WATER			

J. GIVE THE PERCENTAGE EFFLUENT USED FOR ALL CONCENTRATIONS IN THE TEST SERIES.

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
Both concentrations used for both tests	38.8, 19.4	38.8, 19.4	38.8, 19.4
Both concentrations used for both tests	9.70, 4.85	9.70, 4.85	9.70, 4.85
Concentration used for both tests	2.42	2.42	2.42

K. PARAMETERS MEASURED DURING THE TEST. (STATE WHETHER PARAMETER MEETS TEST METHOD SPECIFICATIONS) *meets test specs*

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
pH	7.87 s.u.	7.77 s.u.	7.1 s.u.
SALINITY Specific Conductance	840 umhos/cm	790 umhos/cm	570 umhos/cm
TEMPERATURE	12.2 degrees C	17.7 degrees C	12.7 degrees C
AMMONIA	15 mg/L	11 mg/L	20 mg/L
DISSOLVED OXYGEN	7.9 mg/L	5.2 mg/L	6.1 mg/L

L. TEST RESULTS

ACUTE:

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
PERCENT IN SURVIVAL IN 100% EFFLUENT			
LC ₅₀	65/100 (38.8% Effluent)	100/100 (38.8% Effluent)	100/100 (38.8% Effluent)
95% C.I.			
CONTROL PERCENT SURVIVAL	100/100	100/100	100/100
OTHER (DESCRIBE)			

CHRONIC:

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
NOEC			
IC ₂₅			
CONTROL PERCENT SURVIVAL			
OTHER (DESCRIBE)			

M. QUALITY CONTROL ASSURANCE

	MOST RECENT	2 ND MOST RECENT	3 RD MOST RECENT
IS REFERENCE TOXICANT DATA AVAILABLE?	Yes/Yes	Yes/Yes	Yes/Yes
WAS REFERENCE TOXICANT TEST WITHIN ACCEPTABLE BOUNDS?	Yes/Yes	Yes/Yes	Yes/Yes
WHAT DATE WAS REFERENCED TOXICANT TEST RUN (MM/DD/YYYY)?	01/06/2010	07/08/2009	12/03/2008
OTHER (DESCRIBE)			

50.2 TOXICITY REDUCTION EVALUATION

Is the treatment works involved in a toxicity reduction evaluation? Yes No

If yes, describe:

50.3 SUMMARY OF SUBMITTED BIOMONITORING TEST INFORMATION

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.			
FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007	
PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES			
60. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES			
Refer to the Supplemental Application Information to determine whether Part F applies to the treatment works.			
All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete this form.			
GENERAL INFORMATION			
60.1 PRETREATMENT PROGRAM			
Does the treatment works have, or is it subject to, an approved pretreatment program?			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
60.2 NUMBER OF NON-CATEGORICAL SIGNIFICANT INDUSTRIAL USERS, or SIUs AND CATEGORICAL INDUSTRIAL USERS, or CIUs. PROVIDE THE NUMBER OF EACH OF THE FOLLOWING TYPES OF INDUSTRIAL USERS THAT DISCHARGE TO THE TREATMENT WORKS.			
A. Number of Non-Categorical SIUs <p style="text-align: center;">13</p>	B. Number of CIUs <p style="text-align: center;">27</p>		
60.3 SIGNIFICANT INDUSTRIAL USER 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			
MAILING ADDRESS	CITY	STATE	ZIP
60.4 INDUSTRIAL PROCESSES			
DESCRIBE ALL OF THE INDUSTRIAL PROCESSES THAT AFFECT OR CONTRIBUTE TO THE SIU'S DISCHARGE. See attached			
60.5 PRINCIPAL PRODUCT(S) AND RAW MATERIAL (S)			
Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.			
PRINCIPAL PRODUCT(S) See attached			
RAW MATERIAL(S)			
60.6 FLOW RATE See attached			
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 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.			
C. gpd <input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent			
60.7 PRETREATMENT STANDARDS See attached			
Indicate whether the SIU is subject to the following			
A. Local Limits <input type="checkbox"/> Yes <input type="checkbox"/> No			
B. Categorical Pretreatment Standards <input type="checkbox"/> Yes <input type="checkbox"/> No			
If subject to categorical pretreatment standards, which category and subcategory? See attached			
60.8 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			

SE

PIMS

DATA FOR NPDES APPLICATIONS PART F (INDUSTRIAL USER DISCHARGES)

ACCOUNT NO 0610103101 INDUSTRY NAME MISSOURI RIVER MAILING ADDRESS A SQUARE SYSTEMS CITY ST. LOUIS STATE MO ZIP 63146 BUSINESS DESC Job shop precious metal CATEGORIES SIU CIU

0610103101 A SQUARE SYSTEMS 11923 Bortman Drive St. Louis MO 63146 Job shop precious metal electroplater SIU CIU

Raw Materials: Plating chemicals Gold Silver Copper Nickel Tin Product/Service: Job shop electroplating-precious & non metals

Discharge Component Info: SP DISCHARGE COMPONENT PROCESS DESCRIPTION DISCHARGE IS STREAM IS AVG FLOW UNIT DESC

002 Sanitary 002 From 902 650 Gallons per Day 002 Categorical 413 Sub A & B JS G10K PSES 16,980 Gallons per Day 902 Categorical 11444 Lackland Road St. Louis MO 63146 Fibre manufacturer 16,980 Gallons per Day

0610950502 AIR PRODUCTS PRISM MEMBRANES 11444 Lackland Road St. Louis MO 63146 Fibre manufacturer SIU Raw Materials: Polysulfone Hollow fiber membrane separators Gamma Butyrolactone Propionic Acid N Methyl Pyrrolidone Formliperidine Product/Service: Hollow fiber membrane separators

Discharge Component Info: SP DISCHARGE COMPONENT PROCESS DESCRIPTION DISCHARGE IS STREAM IS AVG FLOW UNIT DESC

003 Boiler Blowdown 003 Non Contact Cooling Water 100 Gallons per Day 003 Plant & Equipment Washdown floor 2,500 Gallons per Day 003 Process Waste Fiber Spinning 200 Gallons per Day 003 Sanitary 4,400 Gallons per Day

9009499801 AVIATION MATERIALS & TECHNICAL SUPPORT 18377 Edison Ave. Chesterfield MO 63005 Aircraft and parts overhaul & repair SIU CIU

Raw Materials: Alodine Overhauled & repaired jet aircraft and parts Chromic acid Airplane parts Product/Service: Overhauled & repaired jet aircraft and parts

Report No. PIMS074a 4/2/2010 2:49:23PM Page 1 of 20 Data Date & Time 4/2/2010 2:49:19PM

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC**

001	Sanitary			CONT	DILUTE	545	Gallons per Day
001	Plant & Equipment Washdown			BATCH	DILUTE	100	Gallons per Day
001	Wastewater From Other Tenants	San from Raytheon Corp and Georgian Aerospace		CONT	DILUTE	100	Gallons per Day
002	Plant & Equipment Washdown			BATCH	DILUTE	50	Gallons per Day
003	Plant & Equipment Washdown			BATCH	DILUTE	50	Gallons per Day
004	Sanitary			BATCH	DILUTE	328	Gallons per Day
005	Sanitary			BATCH	DILUTE	200	Gallons per Day

0200866900 **B/E AEROSPACE INC** **4050 Lakewiew Shores Ct.** **Earth City** **MO** **63045** **Distribution of fastener hardware** **SIU** **CIU**

Raw Materials: Steel channel
 Aluminum channel
 Assorted fasteners

Product/Service: Painted metal channels for fasteners

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC**

901	Categorical	433 Sub A PSNS		BATCH	REGULATED	5	Gallons per Day
001	Sanitary			CONT	DILUTE	1,320	Gallons per Day
001	Categorical	From SP 901		BATCH	DILUTE	5	Gallons per Day

0611508201 **BARNES-JEWISH WEST COUNTY** **12634 Olive Boulevard** **St Louis** **MO63141** **Surgical Hospital & SIU**

HOSPITAL **Rehabilitation Center**

Raw Materials:

Product/Service: Hospital care & surgery

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC**

002	Hospital Waste	including kitchen, laundry, and p/e washdown		CONT	DILUTE	23,670	Gallons per Day
002	Sanitary			CONT	DILUTE	37,535	Gallons per Day
002	Boiler Blowdown			BATCH	DILUTE	50	Gallons per Day
002	Non Contact Cooling Water			BATCH	DILUTE	12,200	Gallons per Day

9008582701 **BELTSERVICE CORP** **4143 Rider Trail North** **Earth City** **MO** **63045** **Manufacturer of rubber conveyor** **SIU** **CIU**

Report No. PIMS074a 4/2/2010 2:49:25PM
 Data Date & Time 4/2/2010 2:49:19PM

Page 1 of 20

Raw Materials: Rubber stock
 Adhesives
 Cotton
 Polyurethral polymers

Product/Service: Conveyor belts

Discharge

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
001	Non Categorical Process Waste	Water jet cutter	BATCH	DILUTE	271	Gallons per Day	
001	Boiler Blowdown		BATCH	DILUTE	20	Gallons per Day	
001	Categorical	428 Sub F PSNS (Pb NA) (CWF-yes)	BATCH	DILUTE	3,900	Gallons per Day	
001	Non Contact Cooling Water	Extruder barrel, press heat exchanger	BATCH	DILUTE	880	Gallons per Day	
001	Regeneration/Reject Water		BATCH	DILUTE	35	Gallons per Day	
001	Sanitary		CONT	DILUTE	4,759	Gallons per Day	

9005368901 BFI WASTE SYSTEMS OF NORTH 12976 St. Charles Rock Road BridgetonMO63044Closed
 landfill SIU AMERICA INC

Raw Materials: Closed Landfill

Product/Service:

Discharge

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
001	Landfill Leachate		BATCH	DILUTE	4,640	Gallons per Day	
004	Sanitary		CONT	DILUTE	5	Gallons per Day	

0511559802 BRIDGETON LANDFILL LLC 13570 St. Charles Rock Road Bridgeton MO 63044Inactive municipal solid waste SIU landfill

Raw Materials: Closed landfill

Product/Service:

Discharge

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
007	Plant & Equipment Washdown	Transfer station and vehicle washdown	BATCH	DILUTE	2,000	Gallons per Day	
007	Landfill Leachate	Same waste that flows through SP008	BATCH	DILUTE	250,000	Gallons per Day	
002	Storm Water	Stormwater runoff	BATCH	DILUTE	0	Gallons per Day	

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	BATCH	DILUTE	AVG FLOW	UNIT	DESC
003	Storm Water	Stormwater runoff	BATCH	DILUTE	0	Gallons per Day	
004	Storm Water	Stormwater runoff/detention basin	BATCH	DILUTE	0	Gallons per Day	
008	Landfill Leachate	Same waste that flows through SP007	CONT	DILUTE	250,000	Gallons per Day	
008	Plant & Equipment Washdown	Transfer station and vehicle washdown	BATCH	DILUTE	2,000	Gallons per Day	
1007615200	CHEMIA CORP	11558 Rock Island Court	Maryland Heights MO	63043	Manufacturer of detergents, cleaners, fragrances		
SIU	CIU						

Raw Materials: Surfactants, Alcohols, Oils, Water, Aroma chemicals

Product/Service: Shampoo, Lotions, Toiletries, Blended fragrances

Discharge Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
002	Sanitary	417 Sub P PSNS	CONT	DILUTE	400	Gallons per Day	
002	Categorical		BATCH	REGULATED	70	Gallons per Day	
002	Boiler Blowdown		BATCH	DILUTE	5	Gallons per Day	
002	Non Contact Cooling Water	Jacketed blending vessel	BATCH	DILUTE	100	Gallons per Day	

9001097001 COOPER BUSSMANN INC P. O. Box 14460 St. Louis MO 63178 Fuse and circuit protection devices manufacturer

Raw Materials: Brass, Copper, Zinc, Steel, Silver, Tin

Product/Service: Circuit protection devices

Discharge Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
904	Categorical	433 Sub A PSES (CN only)	CONT	DILUTE	9,000	Gallons per Day	
902	Categorical	433 A PSES (incl flow from SP 904)	CONT	DILUTE	38,000	Gallons per Day	
002	Categorical	from SPs 902 and 904	CONT	DILUTE	47,000	Gallons per Day	
002	Sanitary		CONT	DILUTE	9,000	Gallons per Day	
002	Plant & Equipment Washdown		CONT	DILUTE	200	Gallons per Day	

0611507000 **COTT BEVERAGES USA** **2525 Schuetz Road** **Maryland Heights** **MO** **63043** **Soft drink bottling** **SIU**

Raw Materials:
 Water
 Sugar
 High fructose syrup
 Flavors
 Aspartame
 Sodium benzoate
 Caffeine

Product/Service: Soft drinks

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC.**

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC.
001	Sanitary		BATCH	DILUTE	3,500	Gallons per Day	
001	Plant & Equipment Washdown	CIP system for tanks, & lines	BATCH	DILUTE	9,930	Gallons per Day	
001	Regeneration/Reject Water	Water softener regeneration waste	CONT	DILUTE	500	Gallons per Day	
002	Non Contact Cooling Water	Cools ammonia compressors	CONT	DILUTE	4,745	Gallons per Day	
002	Contact Cooling Water		CONT	DILUTE	25,200	Gallons per Day	
002	Process Waste		CONT	DILUTE	36,884	Gallons per Day	
002	Plant & Equipment Washdown		CONT	DILUTE	20,859	Gallons per Day	
002	Boiler Blowdown		CONT	DILUTE	2,884	Gallons per Day	
004	Sanitary		BATCH	DILUTE		Gallons per Day	

0200931601 **DIERBERGS CENTRAL** **3400A & 3400B Hollenberg** **Bridgeton** **MO** **63044 Bakery and**

deli foods **SIU** **COMMISSARY** **Drive** **Product/Service:** **manufacturer**

Raw Materials:
 Flour
 Sugar
 Vinegar
 Pastas
 Meats
 Fruits
 Vegetables

Product/Service:
 Breads
 Cakes
 Deli products
 Pastas
 Dips
 Soups
 Salads

Discharge

<i>Component Info:</i>		<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
001	Sanitary	001	Food washing and cooking water	CONT	DILUTE	7,500	Gallons per Day	
001	Process Waste	001		BATCH	DILUTE	3,500	Gallons per Day	
001	Plant & Equipment Washdown	001		BATCH	DILUTE	11,555	Gallons per Day	
001	Cooling Tower Blowdown	001		CONT	DILUTE	1,000	Gallons per Day	

1003808800 ENVIROPAK CORPORATION 4203 Shoreline Ct. Earth City MO 63045 Manufacturer of molded paper pulp packaging SIU CIU

Raw Materials: Recycled newsprint *Product/Service:* Molded paper pulp packaging

<i>Component Info:</i>		<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
001	Categorical	001	430 Sub J PSNS (No biocides)	BATCH	REGULATED	1,300	Gallons per Day	
001	Sanitary	001		CONT	DILUTE	450	Gallons per Day	
001	Non Contact Cooling Water	001		CONT	DILUTE	100	Gallons per Day	

9011404701 ENVIROPAK CORPORATION 4203 Shoreline Earth City MO 63045 Manufacturer of molded paper pulp packaging SIU CIU

Raw Materials: Recycled newsprint *Product/Service:* Molded paper pulp packaging

<i>Component Info:</i>		<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
001	Sanitary	001	430 Sub J PSNS (No biocides)	CONT	DILUTE	550	Gallons per Day	
001	Categorical	001		BATCH	REGULATED	1,300	Gallons per Day	

0510100901 FERRO MAGNETICS CORPORATION 4328 Bridgeton Industrial Drive Bridgeton MO 63044 Manufacturer of battery chargers SIU CIU

Raw Materials: Cold rolled steel *Product/Service:* Battery chargers
 Electrical components

<i>Component Info:</i>		<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
001	Sanitary	001	Sanitary	CONT	DILUTE	100	Gallons per Day	
001	Wastewater From Other Tenants	001	Sanitary	CONT	DILUTE	180	Gallons per Day	
002	Sanitary	002		CONT	DILUTE	400	Gallons per Day	
002	Wastewater From Other Tenants	002	Process & san from Assembly Solutions	CONT	DILUTE	1,380	Gallons per Day	

1038179200 FRED WEBER INC - NORTH 2320 Creve Coeur Mill Road Maryland Heights MO 63043 Limestone quarry and landfill
 SIU
 SANITARY LANDFILL

Raw Materials: Quarry gravel
 Househouse refuge
Product/Service: Sanitary landfill
 Contruction grade limestone

Discharge
Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
004	Sanitary	Septic tank for Old Stone Office Building	BATCH	DILUTE	100	Gallons per Day	
003	Sanitary		CONT	DILUTE	75	Gallons per Day	
002	Sanitary	From Truck Scale House building	CONT	DILUTE	75	Gallons per Day	
001	Condensate	from landfill gas	CONT	DILUTE	3,700	Gallons per Day	
001	Landfill Leachate		CONT	DILUTE	250,000	Gallons per Day	
001	Groundwater infiltration		BATCH	DILUTE	0	Gallons per Day	

0615001600 HOWARD PRICE TURF EQUIPMENT CO 18155 Edison Ave. Chesterfield MO 63005 Manufactures lawn and tractors SIU CIU

Raw Materials: Steel parts
 Phosphating chemicals
 Paint
Product/Service: Commercial mowing equipment

Discharge
Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
002	Sanitary	433 Sub A PSES	CONT	DILUTE	175	Gallons per Day	
001	Categorical	Bathrooms	BATCH	DILUTE	443	Gallons per Day	
002	Plant & Equipment Washdown	Power washing lawn mower equipment	BATCH	DILUTE	5	Gallons per Day	
001	Process Waste		BATCH	DILUTE	10	Gallons per Day	

0511554400 HUSSMANN CORP 12999 St. Charles Rock Rd. Bridgeton MO 63044 Manufacturer of refrigerator cases SIU CIU
Raw Materials: Sheet metal
 Paint
 Aluminum tubing
 Copper tubing
Product/Service: Refrigerator display cases

Discharge

<u>Component Info:</u>	<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
	001	Sanitary		CONT	DILUTE	16,009	Gallons per Day	
	001	Plant & Equipment Washdown		BATCH	DILUTE	500	Gallons per Day	
	001	Kitchen Waste		BATCH	DILUTE	4,972	Gallons per Day	
	001	Boiler Blowdown		BATCH	DILUTE	100	Gallons per Day	
	001	Categorical	From SP 901	BATCH	DILUTE	19,270	Gallons per Day	
	001	Non Contact Cooling Water		BATCH	DILUTE	3,964	Gallons per Day	
	003	Categorical	From SP 902	BATCH	DILUTE	8,460	Gallons per Day	
	003	Sanitary		CONT	DILUTE	9,026	Gallons per Day	
	004	Sanitary		CONT	DILUTE	1	Gallons per Day	
	901	Categorical	433 Sub A, PSES	BATCH	REGULATED	19,270	Gallons per Day	
	902	Categorical	433 Sub A PSNS	BATCH	REGULATED	8,460	Gallons per Day	
	902	Condensate	Air compressor	CONT	DILUTE	28	Gallons per Day	
	001	Non Categorical Process Waste	Deburring machine	BATCH	DILUTE	10	Gallons per Month	

0611504900 **KV PHARMACEUTICAL** **I Corporate Woods** **Bridgeton** **MO 63044** **Pharmaceutical manufacturing** **SIU** **CIU**

Raw Materials: Active ingredients *Product/Service:* Vitamins
 Carriers Prescriptions and nonprescription drugs

Discharge

<u>Component Info:</u>	<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
	001	Sanitary		CONT	DILUTE	3,472	Gallons per Day	
	001	Non Contact Cooling Water		BATCH	DILUTE	1,000	Gallons per Day	
	001	Regeneration/Reject Water	RO reject water	BATCH	DILUTE	10,000	Gallons per Day	
	001	Non Categorical Process Waste	439 Sub E (Gen Stds Only)	BATCH	UNREG	67	Gallons per Day	
	001	Boiler Blowdown		BATCH	DILUTE	100	Gallons per Day	
	001	Categorical	439 Sub D PSES (CWF-yes)	BATCH	REGULATED	13,424	Gallons per Day	

1047258400 **KV PHARMACEUTICAL** **I Corporate Woods** **Bridgeton** **MO 63044** **Pharmaceutical manufacturing** **SIU** **CIU**

Raw Materials: Active ingredients *Product/Service:* Vitamins
 Fillers Nonprescription and prescription drugs

Discharge

<u>Component Info:</u>	<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
	901	Categorical	439 Sub D PSES	BATCH	REGULATED	830	Gallons per Day	
	001	Sanitary		CONT	DILUTE	973	Gallons per Day	

Thallium
Molybdenum
Technetium

Discharge

<i>Component Info:</i>	<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
	006	Sanitary		CONT	DILUTE	7,740	Gallons per Day	
	001	Sanitary		BATCH	DILUTE	30	Gallons per Day	
	001	Laboratory Waste	QC Lab	BATCH	DILUTE	35	Gallons per Day	
	002	Boiler Blowdown		BATCH	DILUTE	968	Gallons per Day	
	002	Plant & Equipment Washdown	Disinfect process tanks & lines	BATCH	DILUTE	760	Gallons per Day	
	002	Sanitary		CONT	DILUTE	2,240	Gallons per Day	
	002	Laboratory Waste	QC for 439 operations	BATCH	DILUTE	200	Gallons per Day	
	003	Laboratory Waste	QC for 439 operations	BATCH	DILUTE	735	Gallons per Day	
	006	Boiler Blowdown		BATCH	DILUTE	5,292	Gallons per Day	
	006	Categorical	439 Sub D PSES (CWF-yes)	CONT	REGULATED	4,720	Gallons per Day	
	006	Non Contact Cooling Water	cooling tower/chiller	BATCH	DILUTE	4,752	Gallons per Day	
	007	Sanitary		CONT	DILUTE	2,020	Gallons per Day	

0710100200 **MALLINCKRODT INC** **675 McDonnell Blvd** **St Louis** **MO** **63042** **R&D of diagnostic imaging materials** **SIU**

Raw Materials: Solvents
Radioactive chemicals

Product/Service: R&D of medical imaging reagents

Discharge

<i>Component Info:</i>	<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
	001	Process Waste	R&D labs, pilot plant (may include some 439 Sub E)	CONT	DILUTE	28,640	Gallons per Day	
	001	Sanitary		CONT	DILUTE	11,300	Gallons per Day	
	001	Plant & Equipment Washdown	janitorial & kitchen operation	BATCH	DILUTE	7,250	Gallons per Day	
	001	Boiler Blowdown		BATCH	DILUTE	1,575	Gallons per Day	
	001	Non Contact Cooling Water	HVAC, jacketed process tanks	BATCH	DILUTE	16,625	Gallons per Day	

0610000600 **MARCHEM CORPORATION** **2500 Adie Road** **Maryland Heights** **MO** **63043** **Manufacturer of plastisols**

Raw Materials: Vinyl resins
Product/Service: Plastisol

urethane compounds

Fillers
 Plasticizers
 Polyols
 Oil
 Isoocyanates

Urethane compounds

Discharge
 Component Info: SP DISCHARGE COMPONENT PROCESS DESCRIPTION DISCHARGE IS STREAM IS AVG FLOW UNIT DESC

002	Sanitary		CONT	DILUTE	1,950	Gallons per Day
002	Boiler Blowdown		BATCH	DILUTE	30	Gallons per Day
002	Non Contact Cooling Water		BATCH	DILUTE	104	Gallons per Day
002	Plant & Equipment Washdown		BATCH	DILUTE	105	Gallons per Day

9004463001 **MARK ANDY INC** 18081 Chesterfield Airport Chesterfield MO 63005 Manufacturer of flexographic printing presses SIU CIU

Raw Materials: Aluminum
 Steel
 Paint *Product/Service:* Flexographic printing presses

Discharge
 Component Info: SP DISCHARGE COMPONENT PROCESS DESCRIPTION DISCHARGE IS STREAM IS AVG FLOW UNIT DESC

001	Non Categorical Process Waste	Ultrasonic parts cleaner	BATCH	DILUTE	6	Gallons per Day
001	Non Contact Cooling Water	spot welder		DILUTE	1,000	Gallons per Day
001	Sanitary			DILUTE	5,800	Gallons per Day
001	Plant & Equipment Washdown	Floor mopping	BATCH	DILUTE	20	Gallons per Day
001	Categorical	from SP 902	CONT	DILUTE	3,765	Gallons per Day
902	Categorical	433 Sub A PSES	CONT	REGULATED	3,765	Gallons per Day

1048617300 **MIDWEST AVIATION CENTER** 525 Turbine Ave. Chesterfield MO 63005 Aircraft maintenance and repair services SIU CIU

Raw Materials: Aluminum
 Motor oil
 Hydraulic oil
 Solvents
 Paints
 Glycol *Product/Service:* Aircraft maintenance and repair

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC**

001	Sanitary			CONT	DILUTE	365	Gallons per Day
001	Plant & Equipment Washdown	Clean aircraft & hanger floor		BATCH	DILUTE	10	Gallons per Day

9000808001 **MONSANTO COMPANY** **800 N. Lindbergh Blvd.** **St. Louis** **MO 63167** **Plant research laboratory** **SIU**

Raw Materials: Laboratory chemicals *Product/Service:* Plant research

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC**

001	Non Contact Cooling Water	Cooling tower blowdown		BATCH	DILUTE	33,626	Gallons per Day
001	Process Waste	40 CFR 439 Sub E NA (No Stds)		BATCH	DILUTE	300,000	Gallons per Day
001	Boiler Blowdown			BATCH	DILUTE	5,500	Gallons per Day
001	Regeneration/Reject Water	Fire protection test water		BATCH	DILUTE	7,000	Gallons per Day
002	Sanitary			CONT	DILUTE	54,000	Gallons per Day

0511553301 **PM RESOURCES INC** **13001 St. Charles Rock Road** **Bridgeton** **MO** **63044**
Pharmaceutical/pesticide **SIU** **CIU** **manufacturer**

Raw Materials: Pharmaceuticals *Product/Service:* Pharmaceuticals
 Solvents Pesticides
 Stearates Herbicides
 600 other ingredients Stearate formulations

Discharge
Component Info: **SP** **DISCHARGE COMPONENT** **PROCESS DESCRIPTION** **DISCHARGE IS** **STREAM IS** **AVG FLOW** **UNIT** **DESC**

904	Categorical			CONT	REGULATED	81	Gallons per Day
001	Non Contact Cooling Water			CONT	DILUTE	2,200	Gallons per Day
001	Plant & Equipment Washdown			CONT	DILUTE	16,230	Gallons per Day
001	Sanitary			CONT	DILUTE	3,320	Gallons per Day
001	Process Waste	organic/inorganic waste		BATCH	DILUTE	5,200	Gallons per Day
001	Laboratory Waste			BATCH	DILUTE	1,800	Gallons per Day
001	Regeneration/Reject Water	Water softener regeneration waste		BATCH	DILUTE	100	Gallons per Day
001	Boiler Blowdown			BATCH	DILUTE	250	Gallons per Day
903	Categorical			CONT	REGULATED	250	Gallons per Day

908	Categorical	439 Sub D PSES	BATCH	REGULATED	100 Gallons per Day
909	Categorical	439 Sub D PSES	BATCH	REGULATED	100 Gallons per Day
910	Categorical	439 Sub D PSES	BATCH	REGULATED	200 Gallons per Day
911	Categorical	439 Sub D PSES	BATCH	REGULATED	50 Gallons per Day
912	Categorical	439 Sub D PSES	BATCH	DILUTE	900 Gallons per Day
001	Categorical	From SPs 903,904,908,909,910,911,912	BATCH	DILUTE	1,350 Gallons per Day

0610602403 RHEIN MANUFACTURING 2269 Grissom Drive St. Louis MO 63146 Manufacturer of surgical instruments **SIU CIU**

Raw Materials: Titanium alloy
 Stainless steel
 Sand
 Aluminum

Product/Service: Surgical instruments

Discharge Component Info:

<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
903	Categorical	433 Sub A PSNS	BATCH	REGULATED	3	Gallons per Day	
001	Sanitary		CONT	DILUTE	300	Gallons per Day	
001	Plant & Equipment Washdown	Janitorial cleaning	BATCH	DILUTE	3	Gallons per Day	
001	Categorical	Flow from SP 903	BATCH	DILUTE	3	Gallons per Day	
001	Non Categorical Process Waste	Waterjet/EDM cutter, milling	BATCH	DILUTE	1,528	Gallons per Day	
001	Regeneration/Reject Water		BATCH	DILUTE	1	Gallons per Day	
001	Storm Water		CONT	DILUTE	0	Gallons per Day	

9008543501 SENSORY EFFECTS FLAVOR SYSTEMS 231 Rock Industrial Park Dr Bridgeton MO 63044 Food Flavoring manufacturer **SIU**

Raw Materials: Cocoa cake
 Whey
 Whey protein
 Fruits
 Fruit juice
 Eggs
 Milk

Product/Service: Chocolate dairy powder
 Fruit juice concentrates
 Eggnog base

Discharge Component Info:

<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
003	Sanitary		CONT	DILUTE	5,200	Gallons per Day	

005 Sanitary	CONT	DILUTE	5,000 Gallons per Day
005 Non Contact Cooling Water	BATCH	DILUTE	750 Gallons per Day
005 Process Waste	BATCH	DILUTE	1,000 Gallons per Day
005 Plant & Equipment Washdown	BATCH	DILUTE	9,400 Gallons per Day
005 Boiler Blowdown	BATCH	DILUTE	3,650 Gallons per Day

1047840200 **SPECTRUM BRANDS PLANT #4** 13260 Corporate Exchange **Bridgeton MO** 63044 Fertilizer/pesticide/pet grooming **SIU** **CIU** **Drive** **manufacturer**

Raw Materials: Soluble fertilizers Pyrethrums Urea Phosphorus pentoxide Phosphoric acid Surfactants Perfumes/dyes Enzymes IPA

Product/Service: Soluble & liquid pesticides Soluble & liquid fertilizers Pet shampoos/grooming sprays Small pet foods

Discharge Component Info: **SP DISCHARGE COMPONENT PROCESS DESCRIPTION DISCHARGE IS STREAM IS AVG FLOW UNIT DESC**

001 Plant & Equipment Washdown	417 Sub P PSNS	BATCH	DILUTE	225	Gallons per Day
001 Sanitary		BATCH	REGULATED	25	Gallons per Day
001 Sanitary		CONT	DILUTE	3,745	Gallons per Day

0511000500 **SSM DEPAUL HEALTH CENTER** 12303 DePaul Dr **Bridgeton MO** 63044 Full patient care hospital **SIU**

Raw Materials: Medicines Bandages

Product/Service: Hospital services

Discharge Component Info: **SP DISCHARGE COMPONENT PROCESS DESCRIPTION DISCHARGE IS STREAM IS AVG FLOW UNIT DESC**

001 Hospital Waste		CONT	DILUTE	4,250	Gallons per Day
001 Boiler Blowdown	For steam autoclave & to heat bldg	BATCH	DILUTE	1,500	Gallons per Day
001 Plant & Equipment Washdown		BATCH	DILUTE	250	Gallons per Day
001 Sanitary		CONT	DILUTE	249	Gallons per Day
001 Non Contact Cooling Water	Cooling tower blow down	CONT	DILUTE	5,432	Gallons per Day
002 Wastewater From Other Tenants	San from Sansone & Lily Bridge Co.	CONT	DILUTE	2,000	Gallons per Day

002 Hospital Waste CONT DILUTE 42,250 Gallons per Day
 002 Sanitary CONT DILUTE 89,879 Gallons per Day

0611304500 **ST LOUIS COCA-COLA** **78 Progress Parkway** **Maryland Heights** **MO** **63043** **Soft drink bottler-SIU**
BOTTLING CO

Raw Materials: **HFCS** **Product/Service:** **Noncarbonated soft drinks**
 Phosphoric acid Carbonated soft drinks
 Carbon dioxide
 Benzoate
 Citric acid

Discharge

<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
004	Plant & Equipment Washdown	includes offspec or expired products	CONT	DILUTE	169,000	Gallons per Day	
004	Boiler Blowdown		BATCH	DILUTE	23,000	Gallons per Day	
004	Non Contact Cooling Water		CONT	DILUTE	37,500	Gallons per Day	
004	Process Waste	includes backwash of PT system	CONT	DILUTE	89,000	Gallons per Day	
005	Sanitary		CONT	DILUTE	2,500	Gallons per Day	

0611862000 **ST LUKE'S HOSPITAL** **232 S. Woods Mill Rd.** **Chesterfield** **MO** **63017** **Hospital services** **SIU**
Raw Materials: **Product/Service:** **Hospital**

Discharge

<u>SP</u>	<u>DISCHARGE COMPONENT</u>	<u>PROCESS DESCRIPTION</u>	<u>DISCHARGE IS</u>	<u>STREAM IS</u>	<u>AVG FLOW</u>	<u>UNIT</u>	<u>DESC</u>
002	Sanitary		CONT	DILUTE	6,750	Gallons per Day	
001	Sanitary		CONT	DILUTE	80,000	Gallons per Day	
001	Kitchen Waste		CONT	DILUTE	15,000	Gallons per Day	
001	Hospital Waste		CONT	DILUTE	61,000	Gallons per Day	
001	Plant & Equipment Washdown		BATCH	DILUTE	7,000	Gallons per Day	
001	Boiler Blowdown		BATCH	DILUTE	8,000	Gallons per Day	
001	Cooling Tower Blowdown		BATCH	DILUTE	17,000	Gallons per Day	
002	Plant & Equipment Washdown		BATCH	DILUTE	2,000	Gallons per Day	
002	Boiler Blowdown		BATCH	DILUTE	1,950	Gallons per Day	
002	Cooling Tower Blowdown		BATCH	DILUTE	3,925	Gallons per Day	

0611855005 **STANGE COMPANY** **2324 Weldon Parkway** **St. Louis** **MO** **63146** **Jewelry manufacturer** **SIU** **CIU**

Raw Materials: Copper Brass Gold Silver Jewels Nickel Rhodium
 Product/Service: Fraternal jewelry Service and recognition awards

Discharge Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
003	Sanitary		CONT	DILUTE	300	Gallons per Day	
003	Plant & Equipment Washdown		BATCH	DILUTE	2	Gallons per Day	
002	Categorical	433 Sub A PSNS	BATCH	REGULATED	400	Gallons per Day	

0610952400 WATLOW ST LOUIS 12001 Lackland Road St. Louis MO 63146 Manufacturer of electrical heating components SIU CIU

Raw Materials: Nickel wire Insulated copper wire Brass tubing Chrome alloy wire
 Product/Service: Industrial electrical heating elements

Discharge Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
002	Sanitary		CONT	DILUTE	3,040	Gallons per Day	
002	Non Contact Cooling Water		BATCH	DILUTE	7,798	Gallons per Day	
002	Contact Cooling Water		BATCH	DILUTE	2	Gallons per Day	
002	Non Categorical Process Waste	Tumblers, ultrasonic cleaner	BATCH	DILUTE	190	Gallons per Day	
002	Plant & Equipment Washdown		BATCH	DILUTE	20	Gallons per Day	
902	Categorical	433 Sub A PSNS	BATCH	REGULATED	10	Gallons per Day	
003	Sanitary		CONT	DILUTE	5,900	Gallons per Day	
003	Plant & Equipment Washdown		BATCH	DILUTE	210	Gallons per Day	
003	Categorical	From SP 902	BATCH	DILUTE	1	Gallons per Day	
003	Regeneration/Reject Water		BATCH	DILUTE	80	Gallons per Day	

9007255602 YOUNG DENTAL 13705 Shoreline Ct East Earth City MO 63045 Dental appliance manufacturer SIU CIU
 MANUFACTURING CO

Raw Materials: Stainless steel
 Report No. PIMS074a 4/2/2010 2:49:25PM
 Data Date & Time 4/2/2010 2:49:19PM
 Product/Service: Attachments for dental equipment
 Page 1 of 20

Mild steel
 Rubber
 Polycarbonate
 Aluminum
 HDPE

Corrosion control 'surgical milk'
 Disclosing solution
 Toothpaste and gels
 Disposable prophyl angles
 Cleaning solutions for dental equipment

Discharge
 Component Info:

SP	DISCHARGE COMPONENT	PROCESS DESCRIPTION	DISCHARGE IS	STREAM IS	AVG FLOW	UNIT	DESC
901	Categorical	433 Sub A PSNS	BATCH	REGULATED	25	Gallons per Day	
902	Categorical	439 Sub D PSES	BATCH	REGULATED	168	Gallons per Day	
001	Sanitary		CONT	DILUTE	4,200	Gallons per Day	
001	Categorical	25 gpd from 901, 168 gpd from 902	BATCH	DILUTE	193	Gallons per Day	
001	Non Categorical Process Waste	Aluminum wash	BATCH	DILUTE	40	Gallons per Day	
001	Regeneration/Reject Water	RO reject	BATCH	DILUTE	200	Gallons per Day	
001	Laboratory Waste	QC + R/D	BATCH	DILUTE	50	Gallons per Day	
003	Sanitary		CONT	DILUTE	440	Gallons per Day	
003	Process Waste	Propyl angle wash	BATCH	DILUTE	3,700	Gallons per Day	
001	Plant & Equipment Washdown	417 Sub H NA (Gen Stds Only)	BATCH	DILUTE	26	Gallons per Day	

Total Records Selected

38

38

25

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.

FACILITY NAME MSD, Missouri River WWTF	PERMIT NO. MO-0004391	OUTFALL NO. 007
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PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES (CONTINUED)

60.9 RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE

RCRA WASTE. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?
 Yes No

WASTE TRANSPORT. Method by which RCRA waste is received. (Check all that apply)

Truck Rail Dedicated Pipe

WASTE DESCRIPTION. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA HAZARDOUS WASTE NUMBER	AMOUNT	UNITS

60.10 CERCLA, OR SUPERFUND, WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER AND OTHER REMEDIAL ACTIVITY WASTEWATER

REMEDIATION WASTE. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

Yes No Provide a list of sites and the requested information for each current and future site.

60.11 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).

Univar
2646 Metro Blvd
Maryland Heights, MO 63043
Ground water remediation

60.12 POLLUTANTS

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)

Lead

60.13 WASTE TREATMENT

A. Is this waste treated (or will it be treated) prior to entering the treatment works?

Yes No

If Yes, describe the treatment (provide information about the removal efficiency):

Air Stripper

B. Is the discharge (or will the discharge be) continuous or intermittent?

Continuous 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.