

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-0116653

Owner: Union Pacific Railroad
Address: 1400 Douglass Street, Omaha, NE 68179

Continuing Authority: Same as above
Address: Same as above

Facility Name: Union Pacific Railroad – DeSoto Car Shop
Facility Address: 491 North Main Street, DeSoto, MO 63020

Legal Description: See page 2
UTM Coordinates: See page 2

Receiving Stream: See page 2
First Classified Stream and ID: See page 2
USGS Basin & Sub-watershed No.: See page 2

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

FACILITY DESCRIPTION

All Outfalls: Industrial – Railroad Operations, SIC #4011
Rail car maintenance and repair facility.
Stormwater runoff associated with storage of rail car components and parts, compressed gas cylinders and bins for collection of solid waste for offsite recycling or offsite disposal. No domestic or process wastewater is discharged by this facility.

See Page 2 for descriptions and locations of outfalls.

This permit authorizes only stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Sections 640.013, 621.250, and 644.051.6 of the Law.

November 1, 2014 September 30, 2016
Effective Date Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2017
Expiration Date

John Madras, Director, Water Protection Program

FACILITY DESCRIPTION (continued):Outfall #001-Referred to as "outfall #001B" in modification application materials

Receives stormwater associated with railcar repair which has exceeded the design flow of the treatment system and basin. Stormwater flow has been separated from that of the City of Desoto, which now discharges to a separate outfall not included in this permit.

Legal Description: Landgrant 2008, Jefferson County
 UTM Coordinates: X= 714784, Y= 4224918
 Receiving Stream: Joachim Creek (P) (1719)
 First Classified Stream and ID: Joachim Creek (P) (1719)
 USGS Basin & Sub-watershed No.: 07140101-0801
 Flow in 10 yr 24 hr precipitation event: 1.28 MGD
 Actual Flow: Dependent on precipitation

Outfall #002

Receives stormwater associated with railcar repair which has exceeded the design flow of the treatment system and basin.

Legal Description: Landgrant 2008, Jefferson County
 UTM Coordinates: X= 714769, Y= 4224828
 Receiving Stream: Joachim Creek (P) (1719)
 First Classified Stream and ID: Joachim Creek (P) (1719)
 USGS Basin & Sub-watershed No.: 07140101-0801
 Flow in 10 yr 24 hr precipitation event: 0.60 MGD
 Actual Flow: Dependent on precipitation

Outfall #003

Receives stormwater associated with railcar repair which has exceeded the design flow of the treatment system and basin.

Legal Description: Landgrant 2008, Jefferson County
 UTM Coordinates: X= 714770, Y= 4224581
 Receiving Stream: Joachim Creek (P) (1719)
 First Classified Stream and ID: Joachim Creek (P) (1719)
 USGS Basin & Sub-watershed No.: 07140101-0801
 Flow in 10 yr 24 hr precipitation event: 0.63 MGD
 Actual Flow: Dependent on precipitation

Outfall #004

Receives stormwater associated with railcar repair which has exceeded the design flow of the treatment system and basin.

Legal Description: Landgrant 2008, Jefferson County
 UTM Coordinates: X= 714760, Y= 4224386
 Receiving Stream: Joachim Creek (P) (1719)
 First Classified Stream and ID: Joachim Creek (P) (1719)
 USGS Basin & Sub-watershed No.: 07140101-0801
 Flow in 10 yr 24 hr precipitation event: 1.24 MGD
 Actual Flow: Dependent on precipitation

Outfall #005-Referred to as "outfall #005B" in modification application materials

Receives stormwater associated with railcar repair which has exceeded the design flow of the treatment system and basin. Stormwater flow has been separated from that of the City of Desoto, which now discharges to a separate outfall not included in this permit.

Legal Description: Landgrant 2008, Jefferson County
 UTM Coordinates: X=714729, Y= 4224153
 Receiving Stream: Joachim Creek (P) (1719)
 First Classified Stream and ID: Joachim Creek (P) (1719)
 USGS Basin & Sub-watershed No.: 07140101-0801
 Flow in 10 yr 24 hr precipitation event: 1.21 MGD
 Actual Flow: Dependent on precipitation

Outfall #006

Receives stormwater associated with railcar repair. Receives stormwater associated with railcar repair which has exceeded the design flow of the treatment system and basin.

Legal Description: Landgrant 2008, Jefferson County
 UTM Coordinates: X=714761, Y= 4225206
 Receiving Stream: Joachim Creek (P) (1719)
 First Classified Stream and ID: Joachim Creek (P) (1719)
 USGS Basin & Sub-watershed No.: 07140101-0801
 Flow in 10 yr 24 hr precipitation event: 0.88 MGD

Actual Flow: Dependent on precipitation

Outfall #007

Receives stormwater from all drainage basins of outfalls #001-006. Water is held in a 1.0 acre temporary holding pond for solids settling, then is treated using two enhanced filtration systems which operate at a combined capacity of 800 gpm. The holding pond is earthen berm construction with a low permeability layer. Enhanced filtration systems utilize sand filtration, carbon adsorption, and selective adsorption.

Legal Description: Landgrant 2008, Jefferson County
UTM Coordinates: X=714814, Y= 4225288
Receiving Stream: Joachim Creek (P) (1719)
First Classified Stream and ID: Joachim Creek (P) (1719)
USGS Basin & Sub-watershed No.: 07140101-0801
Flow in 10 yr 24 hr precipitation event: 5.85 MGD
Actual Flow: Dependent on precipitation

Outfall #008

Emergency spillway for temporary holding pond. Temporary holding pond receives stormwater from the drainage basins of outfalls #001-005. This outfall will discharge in the event of an overflow of the temporary holding pond.

Legal Description: Landgrant 2008, Jefferson County
UTM Coordinates: X=714655, Y= 4225299
Receiving Stream: Tributary to Joachim Creek, locally known as "County Road Tributary" (C)
First Classified Stream and ID: 8-20-13 MUDD V1.0 (C) (3960)
USGS Basin & Sub-watershed No.: 07140101-0801
Flow in 10 yr 24 hr precipitation event: 5.85 MGD
Actual Flow: Dependent on precipitation

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

EFFLUENT PARAMETER(S) (NOTE 1, PAGE 4)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*	-	-	once/quarter*****	24 hr. estimate
Chemical Oxygen Demand	mg/L	**	-	-	once/quarter*****	grab
Total Suspended Solids	mg/L	62	-	-	once/quarter*****	grab
Settleable Solids	mL/L	**	-	-	once/quarter*****	grab
pH – Units	SU	***	-	-	once/quarter*****	grab
Total Petroleum Hydrocarbon – Diesel Range Organics	mg/L	**	-	-	once/quarter*****	grab
Total Petroleum Hydrocarbon – Gasoline Range Organics	mg/L	**	-	-	once/quarter*****	grab
Total Petroleum Hydrocarbon – Oil Range Organics	mg/L	**	-	-	once/quarter*****	grab
Oil & Grease	mg/L	**	-	-	once/quarter*****	grab
Precipitation	Inches	*	-	-	once/day	total measured
Chromium (III), Total Recoverable	µg/L	**	-	-	once/quarter*****	grab
Lead, Total Recoverable	µg/L	**	-	-	once/quarter*****	grab
Zinc, Total Recoverable	µg/L	**	-	-	once/quarter*****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JANUARY 28, 2015. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**OUTFALLS
#006, #007**
**TABLE A-2.
FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **October 1, 2016**, and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S) (NOTE 1, PAGE 4)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*	-	-	once/month	24 hr. estimate
Chemical Oxygen Demand	mg/L	**	-	-	once/month	grab
Total Suspended Solids	mg/L	62	-	-	once/month	grab
Settleable Solids	mL/L	**	-	-	once/month	grab
pH – Units	SU	***	-	-	once/month	grab
Total Petroleum Hydrocarbon – Diesel Range Organics	mg/L	**	-	-	once/month	grab
Total Petroleum Hydrocarbon – Gasoline Range Organics	mg/L	**	-	-	once/month	grab
Total Petroleum Hydrocarbon – Oil Range Organics	mg/L	**	-	-	once/month	grab
Oil & Grease	mg/L	**	-	-	once/month	grab
Precipitation	Inches	*	-	-	once/day	total measured
Chromium (III), Total Recoverable	µg/L	**	-	-	once/month	grab
Lead, Total Recoverable	µg/L	**	-	-	once/month	grab
Zinc, Total Recoverable	µg/L	**	-	-	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JANUARY 28, 2017. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

**OUTFALL
#008**

**TABLE A-3.
FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **October 1, 2016**, and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETER(S) (NOTE 1, PAGE 4)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*	-	-	once/quarter [§]	24 hr. estimate
Chemical Oxygen Demand	mg/L	**	-	-	once/quarter [§]	grab
Total Suspended Solids	mg/L	62	-	-	once/quarter [§]	grab
Settleable Solids	mL/L	**	-	-	once/quarter [§]	grab
pH – Units	SU	***	-	-	once/quarter [§]	grab
Total Petroleum Hydrocarbon – Diesel Range Organics	mg/L	**	-	-	once/quarter [§]	grab
Total Petroleum Hydrocarbon – Gasoline Range Organics	mg/L	**	-	-	once/quarter [§]	grab
Total Petroleum Hydrocarbon – Oil Range Organics	mg/L	**	-	-	once/quarter [§]	grab
Oil & Grease	mg/L	**	-	-	once/quarter [§]	grab
Precipitation	Inches	*	-	-	once/quarter [§]	total measured
Chromium (III), Total Recoverable	µg/L	**	-	-	once/quarter [§]	grab
Lead, Total Recoverable	µg/L	**	-	-	once/quarter [§]	grab
Zinc, Total Recoverable	µg/L	**	-	-	once/quarter [§]	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JANUARY 28, 2017. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

- * Monitoring requirement only.
- ** Monitoring requirement with a benchmark. See Special Condition #10.
- *** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- § Sample only when discharging, once per discharge event. All results from testing conducted in each quarter must be submitted to DNR. If no discharge occurs in a quarter, report “no discharge” on the DMR.

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

Note 1 - All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable precipitation event. If a precipitation event does not occur within the reporting period, report as **no discharge**. The total amount of precipitation should be noted from the event from which the samples were collected.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated August 1, 2014 and hereby incorporated as though fully set forth herein.

C. 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. Water Quality Standards

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

4. 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 by the Director in accordance with 40 CFR 122.44(f).
- (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.

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

C. SPECIAL CONDITIONS (continued)

6. Reporting of Non-Detects
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
 - (b) The permittee shall not report a sample result as “Non-Detect” without also reporting the detection limit of the test. Reporting as “Non-Detect” without also including the detection limit will be considered failure to report, which is a violation of this permit.
 - (c) The permittee shall report the “Non-Detect” result using the less than sign and the minimum detection limit (e.g. <10).
 - (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
 - (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
 - (f) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the “<MDL” shall be reported as indicated in item (C).
7. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).
8. Any pesticide discharge from any point source shall comply with the requirements of Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136 et. seq.) and the use of such pesticides shall be in a manner consistent with its label.
9. Facility SIC codes found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) shall implement a SWPPP and must be prepared and implemented upon permit issuance. The SWPPP must be kept on-site and should not be sent to the department unless specifically requested. The SWPPP must be reviewed and updated every five (5) years or as site conditions change (see Rationale and Derivation: antidegradation analysis and SWPPP in the fact sheet). The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in February 2009 (www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf). The SWPPP must include:
 - (a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater. The BMPs should be designed to treat the stormwater up to the 10 year, 24 hour rain event.
 - (b) For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. Failure to implement and maintain the chosen BMP is a permit violation. For further guidance, consult the antidegradation implementation procedure at <http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf> .
 - (c) The SWPPP must include a schedule for once per month site inspections and brief written reports. Site inspections will also be required after rain events of 0.2 inches or greater. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
 - i. Operational deficiencies must be corrected within seven (7) calendar days.
 - ii. Minor structural deficiencies must be corrected within fourteen (14) calendar days.
 - iii. Major structural deficiencies must be reported to the regional office within seven (7) days of discovery. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including the general timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. The permittee will work with the regional office to determine the best course of action, including but not limited to temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
 - iv. All actions taken to correct the deficiencies shall be included with the written report, including photographs.
 - v. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to department and EPA personnel upon request.
 - (d) A provision for designating an individual to be responsible for environmental matters.
 - (e) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.

C. SPECIAL CONDITIONS (continued)

10. This permit stipulates pollutant benchmarks applicable to your discharge. The benchmarks do not constitute direct numeric effluent limitations; therefore, a benchmark exceedance alone is not a permit violation. Benchmark monitoring and visual inspections shall be used to determine the overall effectiveness of SWPPP and to assist you in knowing when additional corrective action may be necessary to protect water quality. If a sample exceeds a benchmark concentration you must review your SWPPP and your BMPs to determine what improvements or additional controls are needed to reduce that pollutant in your stormwater discharge(s). Failure to improve BMPs and achieve compliance with the benchmarks is a permit violation.

<i>All Outfalls</i>		
PARAMETER	BENCHMARK	
	Value	Unit
Chemical Oxygen Demand	120	mg/L
Settleable Solids	1.5	mL/L/hr
Total Petroleum Hydrocarbon – Diesel Range Organics	10	mg/L
Total Petroleum Hydrocarbon – Gasoline Range Organics	10	mg/L
Total Petroleum Hydrocarbon – Oil Range Organics	10	mg/L
Oil & Grease	15	mg/L
Chromium (III), Total Recoverable	164	µg/L
Lead, Total Recoverable	188	µg/L
Zinc, Total Recoverable	209	µg/L

Any time a benchmark exceedance occurs a Corrective Action Report (CAR) must be completed. A CAR is a document that records the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and available to the department upon request. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility must contact the department if a benchmark value cannot be achieved. Failure to take corrective action to address a benchmark exceedance and failure to make tangible progress towards achieving the benchmarks is a permit violation.

11. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
- Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of storm water from these substances.
 - Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
 - Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that these materials are not exposed to storm water or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
 - Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
 - Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
 - Structural BMPs shall be maintained regularly and per manufacturer’s specifications, if applicable.
12. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.
13. To protect the general criteria found at 10 CSR 20-7.031(4), before releasing water accumulated in secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen. If the presence of odor or sheen is indicated, the water shall be treated using an appropriate method or disposed of in accordance with legally approved methods, such as being sent to a wastewater treatment facility. Following treatment, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A. Records of all testing and treatment of water accumulated in secondary containment shall be stored in the SWPPP to be available on demand to MDNR and EPA personnel.

14. Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010. A record of each reportable spill shall be retained with the SWPPP and made available to the department upon request.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATEMENT OF BASIS
MO-0116653
UNION PACIFIC RAILROAD-DESOTO CAR SHOP

This Statement of Basis gives pertinent information regarding major modification(s) to the above listed operating permit with the need for a public comment process.

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

Part I – Facility Information

Facility Type: Rail Car Maintenance Facility, Industrial Stormwater
Facility SIC Code(s): #4011

Facility Description:

Union Pacific-Desoto Car Shop is a rail car maintenance facility. A majority of railcar repairs are performed indoors or under cover. Significant materials used onsite with potential exposure to stormwater are rail car components and parts, compressed gas cylinders, and bins for collection of solid waste for offsite disposal. Pesticides, herbicides, soil conditioners, and fertilizers are not applied at this facility.

This permit initially covered five outfalls. This modification adds three new outfalls, outfalls #006, #007, and #008, with locations and contributing stormwater as detailed in the permit above. The facility has added a stormwater treatment system which utilizes sedimentation, sand filtration, carbon adsorption, and selective adsorption. Storm water is routed from all drainage basins to the treatment technology and holding pond located prior to outfall #007. The treatment technology is designed to treat the runoff from a precipitation event of approximately 1.14 inches. Any water in excess of this amount will discharge through the outfalls of the respective drainage basins. Outfall #008 is added as an overflow for the stormwater holding basin. Additionally, the facility has added flood control structures on the outfalls to prevent the backflow of water onto the railyard during flood events.

The City of Desoto previously shared outfalls #001 and #005 with this facility. The stormwater changes at this facility have separated this flow from the flow of the railyard, and have diverted the city water to the location of the previous outfalls #001 and #005.

Part II – Modification Rationale

This operating permit is hereby modified to reflect the following:

- Change of locations for outfalls #001, #002, and #005.
- Adds new outfalls #006, #007, and #008. These outfalls are added with the same parameters as the other outfalls in this permit. It is in the best professional judgment of the permit writer the parameters on the other outfalls sufficiently capture the variety of pollutants that will be discharged from the new outfalls. Monthly sampling is required on outfalls #006 and #007 to allow sufficient data collection on the discharges of the new outfalls before the renewal of this permit, which will take place in one year. The application for renewal is due 180 days prior to the expiration of this permit. The permit writer is aware that #008 is an emergency discharge point only, and the permittee may report “No-Discharge” on the DMRs for each quarter no discharge occurs. In the future renewal, sampling frequency for these new outfalls may decrease if the permit writer obtains adequate data. A schedule of compliance is not provided for TSS at these new outfalls, because DMR data from the other outfalls and information on the treatment mechanism indicate the limits will be met at the new outfalls.
- Estimated flow in a 10 year 24 hour precipitation event was added to the description of the outfalls.
- Outfall #004 was changed from monthly sampling to quarterly sampling, and merged with the sampling table for the other outfalls. The anti-backsliding information on this change is included under “Part III-Anti-Backsliding” below.
- Special conditions 6, 9, 11, and 13 were modified from their original text as follows:
 - Special Condition 6—Reporting of non-detects language is updated to current language.
 - Special Condition 9—SWPPP language updated to current language. Of note is the section on stormwater anti-degradation. “For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. Failure to implement and maintain the chosen BMP is a permit violation.” The permittee is proposing a new or expanded discharge with this permit modification. The SWPPP must be updated to include the above requirements for the new outfalls. Additionally, the new special condition adds that site inspections shall occur monthly AND after a rainfall event of 0.2 inches or greater. The portion requiring site inspections after a 0.2 inch rainfall event is new, and was added due to descriptions in the application for

modification that stated the chosen BMP units require regular maintenance especially during times of increased rainfall. BMP maintenance is necessary for proper operation. Additionally, site inspections after rainfall events ensure all BMPs are working as designed.

- Special Condition 11—Modified to include (f) Structural BMPs shall be maintained regularly and per manufacturer’s specifications, if applicable.
- Special Condition 13—Secondary containment language was updated to current language.
- The benchmark for Chromium (III) was changed for all outfalls from 3090 µg/L to 164 µg/L. The previous permit writer used the aquatic life designation on the receiving stream to calculate the benchmark for this pollutant; however, the receiving stream has a use designation of irrigation, which has a more stringent water quality standard of 100 µg/L. The DMR data for the last five years suggests the permittee will not have trouble achieving this benchmark at their site, as 24 µg/L is the highest value reported in that time. The new calculation is below.

$$\begin{array}{ll} \text{IRR WQS: } 100 & \\ \text{LTA}_c: 100 (0.527) = 52.7 & [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}] \\ \text{Benchmark: } 52.7 (3.11) = 163.897 = \mathbf{164 \mu\text{g/L}} & [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}] \end{array}$$

No other changes were made at this time. The original fact sheet is included below for informational purposes.

Part III – Anti-Backsliding

Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.

- ✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
- ✓ Material and substantial alterations or additions to the permitted facility occurred after permit issuance justify the application of a less stringent effluent limitation.
 - The permittee installed an extensive stormwater treatment system that substantially lessens the flow to every outfall and adds new treatment mechanisms. The limitations in the initially issued permit for lead and zinc at outfall #004 were based off of discharge data from the site prior to the upgrade. Additionally, DMR data suggests little potential for exceedances of these parameters (see below).
- ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
 - DMR data was reviewed by the permit writer. Monthly sampling gave the permit writer a substantial amount of data that indicated there was no reasonable potential for exceedance of limits for lead and zinc at outfall #004; therefore, limits were converted to a technology based benchmark to be consistent with other outfalls.

Part IV – 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: 07/06/2016

- The Public Notice period for this operating permit was from 08/19/2016 to 09/19/2016. No responses were received. Changes were made to this permit after public notice as follows: The receiving stream names for outfall #008 were changed to reflect an accurate naming convention; Table A-3 was altered to reduce possible confusion about sampling regime, there were no changes to the sampling requirements; permit writer edited typos in the fact sheet and added to descriptions of outfalls 006-008 in both the permit and Part II of the fact sheet. These changes do not alter the permit limits or requirements and are considered a minor modification not requiring public notice.

COMPLETED BY:

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**MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0116653
UNION PACIFIC RAILROAD – DESOTO CAR SHOP**

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 an Industrial Facility.

Part I. Facility Information

Facility Type: Industrial, Rail car maintenance facility
Facility SIC Code(s): 4011

Facility Description:

All Outfalls: Industrial – Railroad Operations, SIC #4011

Rail car maintenance and repair facility.

Stormwater runoff associated with storage of rail car components and parts, compressed gas cylinders and bins for collection of solid waste for offsite recycling or offsite disposal.

Design flow is dependent upon stormwater runoff.

Stormwater discharge only. This permit does not authorize the discharge of any industrial process or domestic wastewater.

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

- No.

Application Date: 10/15/2013
Expiration Date: 04/09/2014
Last Inspection: 03/12/2014 In Compliance ; Non-Compliance

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001 - #005	Dependent upon Stormwater	Best Management Practices	Stormwater

Facility Performance History & Comments:

The most recent site inspection to determine compliance with the permit was conducted on March 12, 2014 by the Environmental Protection Agency (EPA). The facility was found to be in non-compliance during the time of the inspection. The site inspection report noted continuous non-compliance with final effluent limitations for lead and zinc from Outfall #004. EPA encouraged the permittee to continue evaluating options for achieving consistent compliance with permit limits.

Several Record Reviews were conducted by St. Louis Regional Office staff between 2011 and 2014. These reviews are listed below with the resulting Department action of either a Letter of Warning (LOW) or a Notice of Violation (NOV).

- February 07, 2014 – failed to comply with final effluent limitations, NOV
- August 23, 2012 – failed to comply with final effluent limitations, NOV
- January 09, 2012 – delinquent fees, LOW
- April 19, 2011 – failed to comply with final effluent limitations, NOV

Part II. Receiving Stream Information

Receiving Water Body’s Water Quality

A stream survey was conducted on the Joachim Creek (P) (1719) on July 24, 2012. These surveys were conducted at sites just downstream of small domestic wastewater treatment facilities. Any observations noted are related to the quality of the effluent from those facilities and their impact to those segments of the streams.

Currently, Joachim Creek (P) (1719) is not listed on the Missouri 303(d) List of impaired water bodies, nor is it associated with a Total Maximum Daily Load (TMDL) allocation.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

As per Missouri’s Stormwater Regulations [10 CSR 20.6.200(6)(B)2.], the department shall establish effluent limits as necessary to protect waters of the state. Effluent limitations for stormwater are established using best professional judgment based on the category and designated uses of the receiving stream.

- Missouri or Mississippi River:
- Lake or Reservoir:
- Losing:
- Metropolitan No-Discharge:
- Special Stream:
- Subsurface Water:
- All Other Waters:

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 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:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	DISTANCE TO CLASSIFIED SEGMENT	12-DIGIT HUC**
#001- #005	Joachim Creek	P	1719	AQL, GEN, IND, LWW, SCR, WBC-A	0.0	07140101-0801

* - 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), General Criteria (GEN). ** - Hydrologic Unit Code

RECEIVING STREAM(S) LOW-FLOW VALUES:

OUTFALL	RECEIVING STREAM (U, C, P)	LOW-FLOW VALUES (CFS)		
		1Q10	7Q10	30Q10
#001- #005	Joachim Creek (P)	0.1	0.1	1.0

MIXING CONSIDERATIONS TABLE:

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

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part III. 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.

- New facility, backsliding does not apply.

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

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

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

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

Some of the previous permit limits were established using best professional judgment by the previous permit writer. However, in accordance with current stormwater permitting practices and utilization of benchmark values, best professional judgment has been used to remove some of the effluent limitations set for maximum daily limits (MDL) and all of the average monthly limits (AML). Stormwater events are acute occurrences that result in the greatest concentrations of pollutants being discharged in the first part of the runoff. This first flush can best be represented by a grab sample within the first hours of runoff. Additionally, stormwater events are highly variable. Recording an AML is not representative of the nature of these discharges. Many of these parameters that require just a MDL monitoring only requirement will now have a benchmark value associated with that monitoring only requirement. The following pollutants no longer have effluent limitations, but will have associated benchmark values.

<i>Outfall #001, #002, #003 and #005</i>		
PARAMETER	BENCHMARK	
	Value	Unit
Chemical Oxygen Demand	120	mg/L
Settleable Solids	1.5	mL/L/hr
Total Petroleum Hydrocarbon – Diesel Range Organics	10	mg/L
Total Petroleum Hydrocarbon – Gasoline Range Organics	10	mg/L
Total Petroleum Hydrocarbon – Oil Range Organics	10	mg/L
Chromium (III), Total Recoverable	3,090	µg/L
Lead, Total Recoverable	188	µg/L
Zinc, Total Recoverable	209	µg/L

<i>Outfall #004</i>		
PARAMETER	BENCHMARK	
	Value	Unit
Chemical Oxygen Demand	120	mg/L
Settleable Solids	1.5	mL/L/hr
Total Petroleum Hydrocarbon – Diesel Range Organics	10	mg/L
Total Petroleum Hydrocarbon – Gasoline Range Organics	10	mg/L
Total Petroleum Hydrocarbon – Oil Range Organics	10	mg/L
Chromium (III), Total Recoverable	3,090	µg/L

Please note that Oil & Grease is listed in the benchmark tables in the permit but not in these tables. This is due to the fact that the previous permit did not contain effluent limitations or monitoring for Oil & Grease; therefore, backsliding does not apply to this parameter.

There will be no changes to industrial activities onsite or the composition of the stormwater discharge as a result of this renewal. The benchmark concentrations and required corrective actions are protective of the applicable water quality standards.

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.

BIOSOLIDS & SEWAGE SLUDGE:

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

<http://extension.missouri.edu/main/DisplayCategory.aspx?C=74>, items WQ422 through WQ449.

Not applicable; This condition is not applicable to the permittee for this facility.

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.

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.

Not Applicable; A RPA was not conducted for this facility.

INDUSTRIAL SLUDGE:

Industrial sludge is solids, semi-solids, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

Not applicable; This condition is not applicable to the permittee for this facility.

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.

Not Applicable; This permit does not contain a SOC.

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.

SPILL REPORTING:

Per 10 CSR 24-3.010, any emergency involving a hazardous substance must be reported to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.

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
 C_s = upstream concentration
 Q_s = upstream flow
 C_e = effluent concentration
 Q_e = 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.

Not Applicable; At this time, the permittee is not required to conduct WET test for this facility.

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

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

Part IV. Effluent Limits Determination

Outfall #001, #002, #003 and #005 – Stormwater Outfalls

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.

Due to the nature of the discharges from these outfalls being stormwater, only a maximum daily limit (MDL) or monitoring requirement will be implemented for many of the parameters listed below. Stormwater events are acute occurrences that result in the greatest concentrations of pollutants being discharged in the first part of the runoff. This first flush can best be represented by a grab sample within the first hours of runoff. Additionally, stormwater events are highly variable. Recording an average monthly limit (AML) is not representative of the nature of these discharges. Many of these parameters that require just a MDL monitoring only requirement will now have a benchmark value associated with that monitoring only requirement. These benchmark values will be listed under the individual discussion and derivation of each parameter containing such a value.

Benchmarks

Benchmark concentrations are **not** effluent limitations; benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective action(s) may be necessary to comply with the technology based effluent limitations (TBEL). Failure to take corrective action is a violation of the permit. Benchmark exceedance alone is not a permit violation.

The benchmarks listed in the derivation discussion below have been determined to be feasible, affordable and protective of water quality. These benchmark values are consistent with other stormwater permits including the EPA *Multi-Sector General Permit For Stormwater Discharges Associated With Industrial Activity* (MSGP). The facility will be required to monitor for all these parameters and if the benchmarks are exceeded at all in the following permit cycle, then the permit writer will use best professional judgment to determine if effluent limitations will be necessary to protect water quality.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	Basis for Limits	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		****	NO	*/*
COD	MG/L	6	**		****	YES	120/90
TSS	MG/L	6	62		****	YES	62/50
SETTLEABLE SOLIDS	ML/L/H R	6	**		****	YES	1.5/1.0
PH	SU	1	6.0-9.0		****	NO	6.0-9.0
TOTAL PETROLEUM HYDROCARBON	MG/L	6	****		****	YES	10/10
TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS (TPH-DRO)	MG/L	6	**			YES	**
TOTAL PETROLEUM HYDROCARBONS – GASOLINE RANGE ORGANICS (TPH-GRO)	MG/L	6	**			YES	**
TOTAL PETROLEUM HYDROCARBONS – OIL RANGE ORGANICS (TPH-ORO)	MG/L	6	**			YES	**
HARDNESS, TOTAL	MG/L	6	****		****	YES	*/*
OIL & GREASE (MG/L)	MG/L	1, 6	**		****	YES	***
PRECIPITATION	INCHES	6	*			YES	***
CHROMIUM (III), TOTAL RECOVERABLE	µg/L	1, 6	**		****	YES	2.671/1.331
LEAD, TOTAL RECOVERABLE	µg/L	1, 6	**		****	YES	151/75
ZINC, TOTAL RECOVERABLE	µg/L	1, 6	**		****	YES	180/87

* - Monitoring requirement only

** - Monitoring with associated benchmark

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

**** - Parameter removed from state operating permit.

Basis for Limitations Codes:

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

OUTFALL #001, #002, #003 AND #005 – 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.
- **Chemical Oxygen Demand (COD).** It is the permit writer's best professional judgment to remove effluent limitations and replace with monitoring only with consideration to a benchmark value. There is no water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD that may indicate materials/chemicals coming into contact with stormwater that cause an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. Additionally, a benchmark value will be implemented for this parameter. The benchmark value will be set at 120 mg/L. This value falls within the range of values implemented in other permits that have similar industrial activities and EPA's MSGP. The Discharge Monitoring Reports (DMRs) support this decision with results for all outfalls below the benchmark value:

Outfall #001: 36 - 52.3 mg/L
Outfall #003: 11 - 26.8 mg/L

Outfall #002: 11 - 28.4 mg/L
Outfall #005: 25 - 52.3 mg/L

- **Total Suspended Solids (TSS).** It is the permit writer's best professional judgment continue requiring Maximum Daily Limit of 62 mg/L for this parameter. The permittee has continuous non-compliance with this parameter. The Discharge Monitoring Reports (DMRs) support this decision with results for all outfalls:

Outfall #001: 8 - 69 mg/L
Outfall #003: 5 - 329 mg/L

Outfall #002: 5 - 69 mg/L
Outfall #005: 8.3 - 73 mg/L

- **Settleable Solids.** It is the permit writer's best professional judgment to remove effluent limitations and replace with monitoring only with consideration to a benchmark value. There is no water quality standard for Settleable Solids; however, sediment discharges can negatively impact aquatic life habitat. Settleable Solids is also a valuable indicator parameter. Monitoring allows the permittee to identify increases in solids that may indicate uncontrolled materials leaving the site. Additionally, a benchmark value will be implemented for this parameter. The benchmark value will be set at 1.5 mL/L/hr. This value is achievable based on the DMRs, which show values of 0.1 mL/L/hr for all outfalls except Outfall #005, which has two results of 0.2 mL/L/hr in the past five years.
- **pH.** – 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(4)(E)], due to the buffering capacity of the mixing zone.
- **Total Petroleum Hydrocarbon (TPH).** The permit writer has used best professional judgment to remove this parameter from the permit. The Department's Environmental Services Program (ESP) lab does not test for this parameter any longer. TPH has been split into more specific ranges for analysis, which has replaced this parameter. Please see TPH – Diesel Range Organics, TPH – Gasoline Range Organics and TPH – Oil Range Organics for further explanation. Additionally, benchmark values will be implemented for each range. All of the DMR sample results are well below the final effluent limitation of 10 mg/L, which will be the benchmark value for each range.
- **Total Petroleum Hydrocarbon – Diesel Range Organics (TPH-DRO).** This benchmark has been established at 10mg/L of TPH-DRO.
- **Total Petroleum Hydrocarbon – Gasoline Range Organics (TPH-GRO).** This benchmark has been established at 10mg/L of TPH-GRO.
- **Total Petroleum Hydrocarbon – Oil Range Organics (TPH-ORO).** This benchmark has been established at 10mg/L of TPH-ORO.
- **Total Hardness.** Monitoring only requirement removed. There are no water quality standards for this parameter. Additionally, effluent hardness is not relevant to calculating limits. The instream hardness must be considered when calculating such effluent limitations. This instream hardness provides consideration to amount of pollutants that may be bioavailable in the receiving stream. Monitoring the hardness of stormwater runoff does not adequately characterize the receiving stream conditions. Furthermore, the pollutants affected by hardness will use a default value of 193 mg/L in the calculations, which is consistent with other stormwater and landfill permits issued in the state of Missouri. Therefore, the permit writer has used best professional judgment to remove this parameter from the permit.

- **Oil & Grease.** Conventional pollutant, in accordance with 10 CSR 20-7.031 Table A effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum. However, it is the permit writer's best professional judgment to implement a benchmark value will be implanted at 15 mg/L.
- **Precipitation.** Monitoring only requirement. Measuring the amount of rainfall during an event is necessary to ensure adequate stormwater management exists at the site. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of specific control measure that should be employed to ensure protection of water quality.
- **Metals**
Benchmark values for total recoverable metals were developed using methods and procedures outlined in the "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 193 for stormwater 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
Chromium III	0.316	0.860
Lead	0.695	0.695
Zinc	0.980	0.980

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 = 193 mg/L. N/A = not applicable.

Chromium (III), Total Recoverable. Protection of Aquatic Life Chronic Criteria = 148 µg/L, Acute Criteria = 3,090 µg/L. The DMRs show that all outfalls were below the final effluent limitations and below Acute Criteria for this parameter. Additionally, the application data submitted for renewal has results below the effluent limitations and the Acute Criteria. Therefore, it is the permit writer's best professional judgment to remove effluent limitations and implement monitoring only with a benchmark value set at the Acute Criteria of 3,090 µg/L.

Chronic = $127/0.860 = 147.69 \mu\text{g/L}$
Acute = $976/0.316 = 3089.64 \mu\text{g/L}$

Lead, Total Recoverable. Protection of Aquatic Life Chronic Criteria = 7 µg/L, Acute Criteria = 188 µg/L. The DMRs show that all outfalls were below the final effluent limitations and below the Acute Criteria for this parameter, except for one exceedance from Outfall #005. Additionally, the application data submitted for renewal has results below the effluent limitations and the Acute Criteria. Therefore, it is the permit writer's best professional judgment to remove effluent limitations and implement monitoring only with a benchmark value set at the Acute Criteria of 188 µg/L.

Chronic = $5.1/0.695 = 7.35 \mu\text{g/L}$
Acute = $131/0.695 = 188.47 \mu\text{g/L}$

Zinc, Total Recoverable. Protection of Aquatic Life Chronic Criteria = 209 µg/L, Acute Criteria = 209 µg/L. The DMRs show that all outfalls were below the final effluent limitations and below Acute Criteria for this parameter. Additionally, the application data submitted for renewal has results below the effluent limitations and the Acute Criteria. Therefore, it is the permit writer's best professional judgment to remove effluent limitations and implement monitoring only with a benchmark value set at the Acute Criteria of 209 µg/L.

Chronic = $204.97/0.980 = 209.16 \mu\text{g/L}$
Acute = $204.97/0.980 = 209.16 \mu\text{g/L}$

- **Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/quarter	once/quarter
COD	once/quarter	once/quarter
TSS	once/quarter	once/quarter
Settleable Solids	once/quarter	once/quarter
pH	once/quarter	once/quarter
TPH – DRO	once/quarter	once/quarter
TPH – GRO	once/quarter	once/quarter
TPH – ORO	once/quarter	once/quarter
Oil & Grease	once/quarter	once/quarter
Precipitation	once/day	once/quarter
Chromium III, Total Recoverable	once/quarter	once/quarter
Lead, Total Recoverable	once/quarter	once/quarter
Zinc, Total Recoverable	once/quarter	once/quarter

Sampling Frequency Justification:

Sampling and Reporting Frequency was increased from once per year to once per quarter. In order to ensure proper stormwater control measures are being taken, and the BMPs are working properly, the frequency on monitoring must be increased to at least once per quarter. This is consistent with other stormwater permits issued in the State of Missouri.

Precipitation must be measured on a daily basis. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of how the existing stormwater control measures may be affected by that volume of stormwater runoff.

- **Sampling Type Justification**

Sampling Type was retained from the previous permit. Due to the nature of the discharge being stormwater, grab samples will provide representative sampling during a storm event.

Outfall #004 – Stormwater Outfalls

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.

Due to the nature of the discharges from these outfalls being stormwater, only a maximum daily limit (MDL) or monitoring requirement will be implemented for many of the parameters listed below. Stormwater events are acute occurrences that result in the greatest concentrations of pollutants being discharged in the first part of the runoff. This first flush can best be represented by a grab sample within the first hours of runoff. Additionally, stormwater events are highly variable. Recording an average monthly limit (AML) is not representative of the nature of these discharges. Many of these parameters that require just a MDL monitoring only requirement will now have a benchmark value associated with that monitoring only requirement. These benchmark values will be listed under the individual discussion and derivation of each parameter containing such a value.

Benchmarks

Benchmark concentrations are **not** effluent limitations; benchmark exceedance, therefore, is not a permit violation. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective action(s) may be necessary to comply with the technology based effluent limitations (TBEL). Failure to take corrective action is a violation of the permit. Benchmark exceedance alone is not a permit violation.

The benchmarks listed in the derivation discussion below have been determined to be feasible, affordable and protective of water quality. These benchmark values are consistent with other stormwater permits including the EPA *Multi-Sector General Permit For Stormwater Discharges Associated With Industrial Activity* (MSGP). The facility will be required to monitor for all these parameters and if the benchmarks are exceeded at all in the following permit cycle, then the permit writer will use best professional judgment to determine if effluent limitations will be necessary to protect water quality.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	Basis for Limits	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*		****	NO	*/*
COD	MG/L	6	**		****	YES	120/90
TSS	MG/L	6	62		****	YES	62/50
SETTLABLE SOLIDS	ML/L/HR	6	**		****	YES	1.5/1.0
PH	SU	1	6.0-9.0		****	NO	6.0-9.0
TOTAL PETROLEUM HYDROCARBON	MG/L	6	****		****	YES	10/10
TOTAL PETROLEUM HYDROCARBONS – DIESEL RANGE ORGANICS (TPH-DRO)	MG/L	6	**			YES	**
TOTAL PETROLEUM HYDROCARBONS – GASOLINE RANGE ORGANICS (TPH-GRO)	MG/L	6	**			YES	**
TOTAL PETROLEUM HYDROCARBONS – OIL RANGE ORGANICS (TPH-ORO)	MG/L	6	**			YES	**
HARDNESS, TOTAL	MG/L	6	****		****	YES	*/*
OIL & GREASE (MG/L)	MG/L	1, 6	**		****	YES	***
PRECIPITATION	INCHES	6	*			YES	***
CHROMIUM (III), TOTAL RECOVERABLE	µg/L	1, 6	**		****	YES	2.671/1.331
LEAD, TOTAL RECOVERABLE	µg/L	1, 6	188		****	YES	151/75
ZINC, TOTAL RECOVERABLE	µg/L	1, 6	209		****	YES	180/87

* - Monitoring requirement only

** - Monitoring with associated benchmark

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

**** - Parameter removed from state operating permit.

Basis for Limitations Codes:

- 5. State or Federal Regulation/Law
- 6. Water Quality Standard (includes RPA)
- 7. Water Quality Based Effluent Limits
- 8. Antidegradation Review/Policy

- 5. Water Quality Model
- 6. Best Professional Judgment
- 7. TMDL or Permit in lieu of TMDL
- 8. WET Test Policy

OUTFALL #004 – 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.
- **Chemical Oxygen Demand (COD).** It is the permit writer’s best professional judgment to remove effluent limitations and replace with monitoring only with consideration to a benchmark value. There is no water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD that may indicate materials/chemicals coming into contact with stormwater that cause an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. Additionally, a benchmark value will be implemented for this parameter. The benchmark value will be set at 120 mg/L. This value falls within the range of values implemented in other permits that have similar industrial activities and EPA’s MSGP. The DMRs show a range of 5.6 – 105 mg/L. Out of the 36 sample results, this outfall only exceeded the effluent limitations twice at 105 mg/L and 95.7 mg/L.
- **Total Suspended Solids (TSS).** It is the permit writer’s best professional judgment continue requiring Maximum Daily Limit of 62 mg/L for this parameter. The permittee has continuous non-compliance with this parameter. The Discharge Monitoring Reports (DMRs) support this decision with results ranging from 5 – 827 mg/L. Out of the 32 sample results from after the time the final effluent limitations became effective, 10 of those samples exceeded effluent limitations. Out of the entire 35 sample results (interim and final limits) for Maximum Daily Effluent results, 16 exceeded limit of 62 mg/L.
- **Settleable Solids.** It is the permit writer’s best professional judgment to remove effluent limitations and replace with monitoring only with consideration to a benchmark value. There is no water quality standard for Settleable Solids; however, sediment discharges can negatively impact aquatic life habitat. Settleable Solids is also a valuable indicator parameter. Monitoring allows the permittee to identify increases in solids that may indicate uncontrolled materials leaving the site. Additionally, a benchmark value will be implemented for this parameter. The benchmark value will be set at 1.5 mL/L/hr. This value is achievable based on the DMRs, which show values ranging from 0.1 – 0.5 mL/L/hr.

- **pH.** – 6.0-9.0 SU. Technology based limits [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(4)(E)], due to the buffering capacity of the mixing zone.
- **Total Petroleum Hydrocarbon (TPH).** The permit writer has used best professional judgment to remove this parameter from the permit. The Department’s Environmental Services Program (ESP) lab does not test for this parameter any longer. TPH has been split into more specific ranges for analysis, which has replaced this parameter. Please see TPH – Diesel Range Organics, TPH – Gasoline Range Organics and TPH – Oil Range Organics for further explanation. Additionally, benchmark values will be implemented for each range. All of the DMR sample results are well below the final effluent limitation of 10 mg/L, which will be the benchmark value for each range.
- **Total Petroleum Hydrocarbon – Diesel Range Organics (TPH-DRO).** This benchmark has been established at 10mg/L of TPH-DRO.
- **Total Petroleum Hydrocarbon – Gasoline Range Organics (TPH-GRO).** This benchmark has been established at 10mg/L of TPH-GRO.
- **Total Petroleum Hydrocarbon – Oil Range Organics (TPH-ORO).** This benchmark has been established at 10mg/L of TPH-ORO.
- **Total Hardness.** Monitoring only requirement removed. There are no water quality standards for this parameter. Additionally, effluent hardness is not relevant to calculating limits. The instream hardness must be considered when calculating such effluent limitations. This instream hardness provides consideration to amount of pollutants that may be bioavailable in the receiving stream. Monitoring the hardness of stormwater runoff does not adequately characterize the receiving stream conditions. Furthermore, the pollutants affected by hardness will use a default value of 193 mg/L in the calculations, which is consistent with other stormwater and landfill permits issued in the state of Missouri. Therefore, the permit writer has used best professional judgment to remove this parameter from the permit.
- **Oil & Grease.** Conventional pollutant, in accordance with 10 CSR 20-7.031 Table A effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum. However, it is the permit writer’s best professional judgment to implement a benchmark value will be implanted at 15 mg/L.
- **Precipitation.** Monitoring only requirement. Measuring the amount of rainfall during an event is necessary to ensure adequate stormwater management exists at the site. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of specific control measure that should be employed to ensure protection of water quality.
- **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 193 for stormwater 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
Chromium III	0.316	0.860
Lead	0.695	0.695
Zinc	0.980	0.980

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 = 193 mg/L. N/A = not applicable.

Chromium (III), Total Recoverable. Protection of Aquatic Life Chronic Criteria = 148 µg/L, Acute Criteria = 3,090 µg/L. The DMRs show results were below the final effluent limitations and below Acute Criteria for this parameter. Additionally, the application data submitted for renewal has results below the effluent limitations and the Acute Criteria. Therefore, it is the permit writer's best professional judgment to remove effluent limitations and implement monitoring only with a benchmark value set at the Acute Criteria of 3,090 µg/L.

$$\text{Chronic} = 127/0.860 = 147.69 \text{ } \mu\text{g/L}$$

$$\text{Acute} = 976/0.316 = 3089.64 \text{ } \mu\text{g/L}$$

Lead, Total Recoverable. Protection of Aquatic Life Chronic Criteria = 7 µg/L, Acute Criteria = 188 µg/L. The DMRs show several sample results exceeding final effluent limitations set in the previous permit, with four of those values even exceeding Acute Criteria. Additionally, the EPA site inspection report noted continuous non-compliance from this outfall. Therefore, it is the permit writer's best professional judgment to continue implementing final effluent limitations for this parameter. Due to the nature of the discharge being stormwater, Acute Criteria will be used to calculate final effluent limitations. The previous permit writer used a default hardness of 162 mg/L to evaluate conversion factors. However, it has been determined that a hardness of 193 mg/L is more representative of receiving streams during storm events.

$$\text{Chronic} = 5.1/0.695 = 7.35 \text{ } \mu\text{g/L}$$

$$\text{Acute} = 131/0.695 = 188.47 \text{ } \mu\text{g/L}$$

$$\text{Acute WLA: } 188.47 \text{ } \mu\text{g/L}$$

$$\text{LTA}_a = 188.47 (0.321) = 60.5 \text{ } \mu\text{g/L}$$

[CV = 0.6, 99th Percentile]

$$\text{MDL} = 60.5 (3.11) = 188.16 \text{ } \mu\text{g/L}$$

[CV = 0.6, 99th Percentile]

Zinc, Total Recoverable. Protection of Aquatic Life Chronic Criteria = 209 µg/L, Acute Criteria = 209 µg/L. The DMRs show several sample results exceeding final effluent limitations set in the previous permit, with four of those values even exceeding Acute Criteria. Additionally, the EPA site inspection report noted continuous non-compliance from this outfall. Therefore, it is the permit writer's best professional judgment to continue implementing final effluent limitations for this parameter. Due to the nature of the discharge being stormwater, Acute Criteria will be used to calculate final effluent limitations. The previous permit writer used a default hardness of 162 mg/L to evaluate conversion factors. However, it has been determined that a hardness of 193 mg/L is more representative of receiving streams during storm events.

$$\text{Chronic} = 204.97/0.980 = 209.16 \text{ } \mu\text{g/L}$$

$$\text{Acute} = 204.97/0.980 = 209.16 \text{ } \mu\text{g/L}$$

$$\text{Acute WLA: } 209.16 \text{ } \mu\text{g/L}$$

$$\text{LTA}_a = 209.16 (0.321) = 67.14 \text{ } \mu\text{g/L}$$

[CV = 0.6, 99th Percentile]

$$\text{MDL} = 67.14 (3.11) = 208.81 \text{ } \mu\text{g/L}$$

[CV = 0.6, 99th Percentile]

- **Minimum Sampling and Reporting Frequency Requirements.**

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/month	once/month
COD	once/month	once/month
TSS	once/month	once/month
Settleable Solids	once/month	once/month
pH	once/month	once/month
TPH – DRO	once/month	once/month
TPH – GRO	once/month	once/month
TPH – ORO	once/month	once/month
Oil & Grease	once/month	once/month
Precipitation	once/day	once/month
Chromium III, Total Recoverable	once/month	once/month
Lead, Total Recoverable	once/month	once/month
Zinc, Total Recoverable	once/month	once/month

Sampling Frequency Justification:

Sampling and Reporting Frequency was retained from the previous permit. In order to ensure proper stormwater control measures are being taken, and the BMPs are working properly, the frequency on monitoring will continue at once per month.

Precipitation must be measured on a daily basis. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of how the existing stormwater control measures may be affected by that volume of stormwater runoff.

- **Sampling Type Justification**

Sampling Type was retained from the previous permit. Due to the nature of the discharge being stormwater, grab samples will provide representative sampling during a storm event.

Part V. 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.

PERMIT SYNCHRONIZATION:

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

PUBLIC NOTICE:

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

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

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

- The Public Notice period for this operating permit began on August 8, 2014 and ended on September 8, 2014. No comments were received.

DATE OF FACT SHEET: JULY 23, 2014

COMPLETED BY:

**LOGAN COLE, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

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

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

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

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

Section B – Reporting Requirements

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



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

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

Section C – Bypass/Upset Requirements

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

Section D – Administrative Requirements

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



STANDARD CONDITIONS FOR NPDES PERMITS
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MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

- imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
- d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
- a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
- b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
- c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
6. **Permit Actions.**
- a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
- i. Violations of any terms or conditions of this permit or the law;
- ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
- iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- iv. Any reason set forth in the Law or Regulations.
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
7. **Permit Transfer.**
- a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
- b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
- c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



STANDARD CONDITIONS FOR NPDES PERMITS
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REVISED
AUGUST 1, 2014

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

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JUN 29 2016



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
**FORM A – APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI
 CLEAN WATER LAW**

Water Protection Program

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 6/29/16	FEE SUBMITTED 88

Note ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

An operating permit for a new or unpermitted facility:
 Please indicate the original Construction Permit # _____

An operating permit renewal:
 Please indicate the permit # MO- _____ Expiration Date _____

An operating permit modification:
 Please indicate the permit # MO- 0116653 Modification Reason: New outfalls and modifications

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

2. FACILITY

NAME Union Pacific Railroad - DeSoto Car Shop		TELEPHONE NUMBER WITH AREA CODE (636) 586-1101	
ADDRESS (PHYSICAL) 491 North Main Street		CITY DeSoto	STATE ZIP CODE MO 63020
		FAX (402) 501-3231	

3. OWNER

NAME Union Pacific Railroad		EMAIL ADDRESS dwilmin@up.com		TELEPHONE NUMBER WITH AREA CODE (501) 373-2829	
ADDRESS (MAILING) 1400 Douglas Street		CITY Omaha	STATE NE	ZIP CODE 68179	
				FAX (501) 373-2835	

3.1 Request review of draft permit prior to public notice? YES NO

4. CONTINUING AUTHORITY

NAME Union Pacific Railroad		EMAIL ADDRESS dwilmin@up.com		TELEPHONE NUMBER WITH AREA CODE (501) 373-2829	
ADDRESS (MAILING) 1400 Douglas Street		CITY Omaha	STATE NE	ZIP CODE 68179	
				FAX (501) 373-2835	

5. OPERATOR

NAME N/A		CERTIFICATE NUMBER		TELEPHONE NUMBER WITH AREA CODE	
ADDRESS (MAILING)		CITY	STATE	ZIP CODE	
				FAX	

6. FACILITY CONTACT

NAME Devon Wilmington		TITLE Manager, Environ. Field Operations		TELEPHONE NUMBER WITH AREA CODE (501) 373-2829	
		E-MAIL ADDRESS dwilmin@up.com		FAX (501) 373-2835	

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001B 1/4 1/4 Sec 02008 T Land R Grant Jeffer. County
 UTM Coordinates Easting (X): 806221.46 Northing (Y): 842073.09
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 1/4 1/4 001B 02008 T Land R Grant Jeffer. County
 UTM Coordinates Easting (X): 806203.5 Northing (Y): 841882.79

003 1/4 1/4 Sec 02008 T Land R Grant Jeffer. County
 UTM Coordinates Easting (X): 806147.62 Northing (Y): 841081.99

004 1/4 1/4 Sec 02008 T Land R Grant Jeffer. County
 UTM Coordinates Easting (X): 806086.09 Northing (Y): 840557.57

7.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

001B - SIC 4011 and NAICS _____ 002 - SIC 4011 and NAICS _____
 003 - SIC 4011 and NAICS _____ 004 - SIC 4011 and NAICS _____

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Water Protection Program

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)

- A. Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? YES NO
If yes, complete Form C or 2F.
(2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)
- B. Is application for storm water discharges only? YES NO
If yes, complete Form C or 2F.
- C. Is your facility considered a "Primary Industry" under EPA guidelines: YES NO
If yes, complete Forms C or 2F and D.
- D. Is wastewater land applied? YES NO
If yes, complete Form I.
- E. Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? YES NO
If yes, complete Form R.
- F. If you are a Class IA CAFO, please disregard part D and E of this section. However, please attach any revision to your Nutrient Management Plan.
- F. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME
N/A

ADDRESS	CITY	STATE	ZIP CODE
---------	------	-------	----------

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Joel Strafelda, General Manager - Environmental Management	TELEPHONE NUMBER WITH AREA CODE 402-544-6572
---	---

SIGNATURE 	DATE SIGNED 6/10/2016
--	--------------------------

MO 780-1479 (07-14)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

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

HAVE YOU INCLUDED:

- Appropriate Fees?
- Map at 1" = 2000' scale?
- Signature?
- Form C or 2F, if applicable?
- Form D, if applicable?
- Form I (Irrigation), if applicable?
- Form R (Sludge), if applicable?
- Revised Nutrient Management Plan, if applicable?

7. Additional Facility Information

7.1 Legal Description of Outfalls (continued)

Outfall 005 B

02008 Land Grant Jefferson County
UTM Coordinates Easting (X): 805910.33 Northing (Y): 839684.94

Outfall 006 (new)

02008 Land Grant Jefferson County
UTM Coordinates Easting (X): 806122.59 Northing (Y): 843141.75

Outfall 007 (new)

02008 Land Grant Jefferson County
UTM Coordinates Easting (X): 806318.75 Northing (Y): 843453.55

Outfall 008 (new; emergency spillway)

02008 Land Grant Jefferson County
UTM Coordinates Easting (X): 805822.32 Northing (Y): 843413.35

7.2 Primary Standard Industrial Classification (SIC) Codes

Outfall 005 B

SIC 4011

Outfall 006 (new)

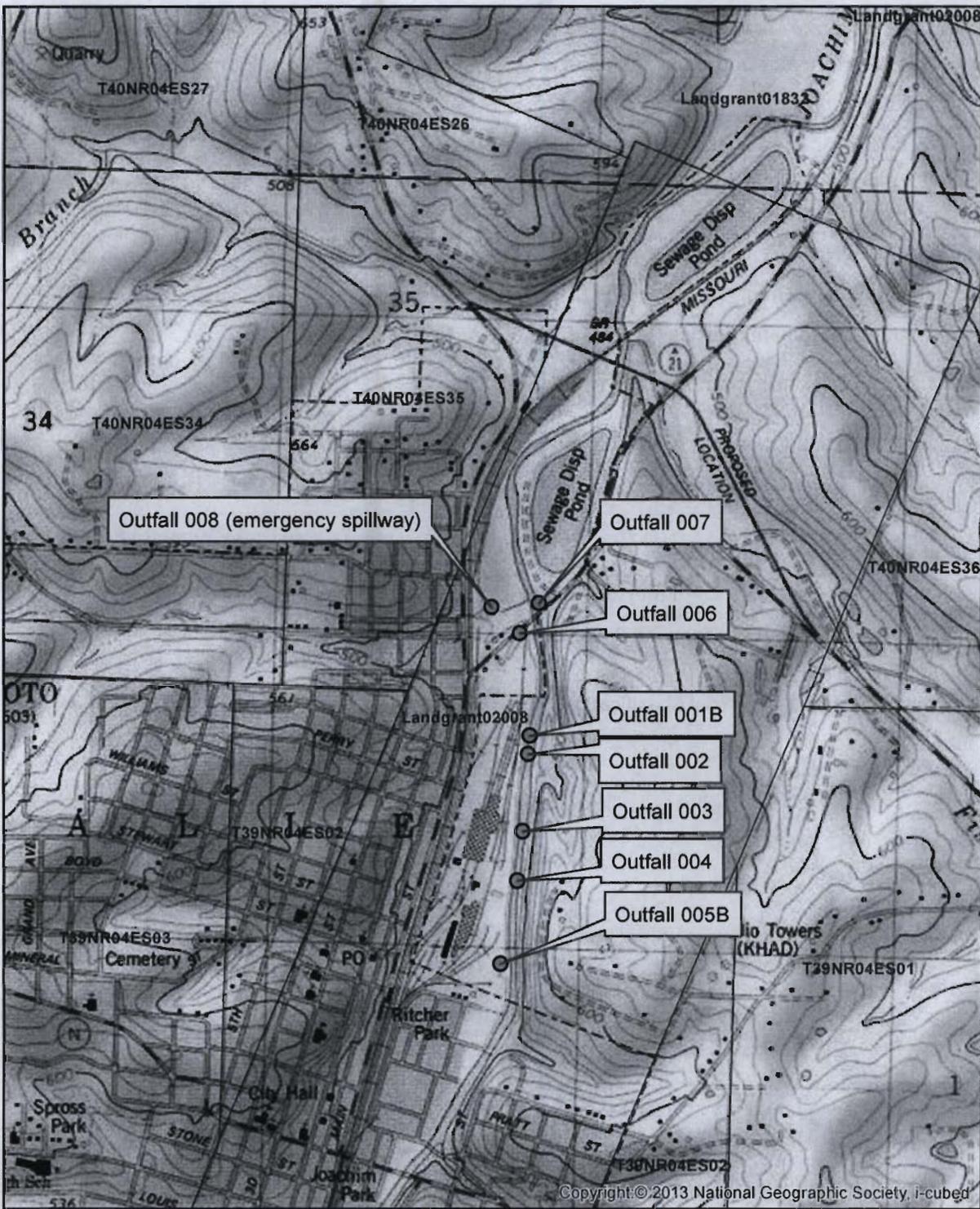
SIC 4011

Outfall 007 (new)

SIC 4011

Outfall 008 (new; emergency spillway)

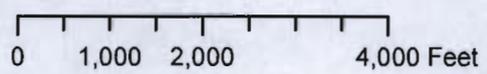
SIC 4011



4/13/2016

Figure 1. USGS Site Location Map, 1"=2,000'

Union Pacific Railroad, De Soto, Missouri



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JUN 29 2016

Water Protection Program

Devon Wilmington
Union Pacific Railroad
1400 Douglas Street
Omaha, NE 68179
O +1 501 373 2829
dwilmin@up.com

Mr. Logan Cole, Environmental Specialist
Missouri Department of Natural Resources
Water Protection Program
Operating Permits Section – Industrial Unit
St. Louis Regional Office
7545 South Lindbergh Suite 210
St. Louis, Missouri 63125



June 6, 2016

Subject: NPDES Permit No. MO-0116653 – Operating Permit – Permit Modification Request

Dear Mr. Cole,

The Union Pacific Railroad (UPRR) De Soto Car Shop facility located at 491 North Main Street, De Soto, Missouri discharges industrial stormwater in accordance with NPDES Permit No. MO-0116653 (effective date November 1, 2014). UPRR is in the process of designing and constructing modifications to the onsite industrial storm sewer system which will add on two stormwater outfalls to the site and reduce the operation and discharge frequency of the existing five stormwater outfalls identified in the NPDES Permit No. MO-116653. The modifications also include a stormwater treatment system consisting of a stormwater holding pond for initial sedimentation followed by enhanced multimedia filter units prior to discharge of the treated stormwater to Joachim Creek.

This letter and attachments present a permit modification application package. The enclosed package consists of the following:

- Project narrative
- Missouri Department of Natural Resources Form A
- U.S. Environmental Protection Agency (EPA) Form 2F (reflects information from November 1, 2014 – current).

UPRR is requesting review of this permit modification application package and amendment of the existing NPDES Permit No. MO-116653 to include the new outfalls and modified industrial stormwater discharges. Please don't hesitate to call during your review and let us know if a meeting or conference call to discuss this application package would be helpful. Please contact me with any questions at (501) 373-2829. I will plan to call you in 2 weeks to discuss the package and the process for your review and permit modification.

Regards,

A handwritten signature in blue ink, appearing to read "Devon Wilmington". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Devon Wilmington
Manager – Environmental Field Operations

Missouri Department of Natural Resources

Page 2

January 1, 2016

Cc: Ed McNutt/UPRR

Enclosure: NPDES Permit No. MO-0116653 Modification Application Package

Attachment A
Project Narrative – Stormwater Improvements

Narrative Description of Stormwater Improvements

UPRR De Soto Car Shops Site, De Soto, Missouri

UPRR's De Soto Car Shop is currently permitted to discharge site storm runoff to Joachim Creek through five outfalls under Missouri State Operating Permit (MO-0116653): Outfalls 001, 002, 003, 004, and 005. UPRR is in the process of designing and constructing several Improvements to the site stormwater system which involve the following changes at the site:

- Outfall modifications –
 - o Minor changes in the physical locations of the discharge points for Outfalls 001, 002, 003, 004 and 005
 - o Separation of the City of De Soto stormwater run-on into separate outfalls (001A and 005A) eliminating the commingling with the UPRR site stormwater runoff at Outfalls 001 and 005 (renamed 001B and 005B)
- New proposed outfalls –
 - o Addition of Outfall 006 which discharges industrial stormwater from newly constructed facility maintenance building materials storage and handling area.
 - o Addition of Outfall 007 which will discharge industrial stormwater to Joachim Creek which has been treated through a holding pond (for sediment settling) and an enhanced multimedia filter prior to discharge.
 - o Addition of Outfall 008 which is an emergency spillway from a holding pond to County Road Tributary.

These changes require review and possible revisions to the current discharge permit for the site. Information on each of these changes is provided in the following sections.

Background

The UPRR De Soto Car Shops site is comprised of six stormwater sub-basins which outfall to Joachim Creek through six outfalls (001, 002, 003, 004, 005, and 006). Five of the six outfalls convey industrial stormwater from regulated areas of vehicle maintenance and/or fueling at the site as provided in the Missouri State Operating Permit (MO-0116653). In the interest of providing greater control over and simplifying management of the stormwater discharge from the six sub-basins during future facility expansion at the De Soto Car Shops site, UPRR proposes to convey storm flow via a new conveyance system that collects and pumps stormwater from all six sub-basins to a stormwater treatment unit (consisting of holding/solids settling pond and enhanced multimedia filters), which then discharges through a single outfall (Outfall 007) to Joachim Creek. This conveyance and treatment approach will provide greater certainty that permit-required TSS, lead, and zinc removals will be achieved. This stormwater management strategy will result in approximately 90 percent of the entire site's annual stormwater runoff volume being treated with the goal to achieve full compliance with all permit water quality parameters.

Stormwater Conveyance

The stormwater system improvements are based on diverting up to the water quality flow event (defined as the 1.14-inch rainfall depth storm by St. Louis Metropolitan Sewer District) from each outfall pipe upstream of the discharge point, conveying that flow into a force main pipe and treating the volume through a holding pond (for solids settling) and an enhanced multimedia filter before discharging it into Joachim Creek. The buried force main pipe will be installed from Outfall 005 on the southern end of the site to the treatment system to be located on the parcel north of Fountain City Road. The force main pipe will be sized to convey the water quality flow rate for each stormwater sub-basin

(Outfalls 005, 004, 003, 002, 001 and 006 – south to north, respectively) and will become progressively larger in diameter as the runoff from each sub-basin is added to the cumulative flow. Any flow in excess of the defined water quality flow rate will continue to flow through the existing outfalls and discharge into Joachim Creek through the six storm drain system outfalls (i.e., will not be diverted).

In addition, UPRR has completed design of a flood control berm to prevent flooding of the De Soto site during a 100-year storm event. Each of the existing outfall structures will be modified during construction of the flood control berm to install flood control flap gates on the outfall pipes that will tend to be held shut as the river rises above the pipe invert during flood events in Joachim Creek. During more significant flood events, the storm drain system will be constrained by the flap gates and water levels in Joachim Creek causing runoff flows to back up in the storm drains with the potential to flood certain portions of the site. The new stormwater conveyance and treatment system will continue to operate removing stormwater from the site at the water quality flow rate and conveying it to the treatment system. The treated effluent discharge from the treatment unit(s) will be conveyed by gravity through buried piping to a new outfall (Outfall 007) structure in Joachim Creek downstream of the existing outfalls.

Outfall Modifications

Outfalls 001 – 005 are currently regulated under the facility's NPDES permit (MO-0116653). The following are modifications to the outfall structures that will be constructed during this project:

- The existing Outfall 001, which currently discharges combined City and UPRR site runoff, will be replaced with a separated system that will discharge UPRR De Soto Car Shop site runoff only through a new outfall (001-B) with a flood control flap gate and concrete headwall. City runoff will be separated and discharged through the existing Outfall 001.
- The existing Outfall 002 will be abandoned in place and replaced with a new Outfall 002 with a concrete headwall and flood control check valve to the north of the existing location.
- Existing Outfall 003 will be shifted north and installed with a flood control flap gate added in a manhole just upstream of the existing open-pipe discharge into Joachim Creek.
- The existing Outfall 004 will be modified with a concrete headwall and flood control check valve in the existing location.
- The existing Outfall 005, which currently discharges combined City and UPRR site runoff, will be replaced with a separated system that will discharge UPRR De Soto Car Shop site runoff only through a new outfall (005-B) with a flood control flap gate, which will discharge at a concrete headwall shared by the City runoff Outfall 005 (005-A).

New Proposed Outfalls

Outfalls 006, 007 and 008 are new proposed outfalls as follows:

- Outfall 006 is an existing outfall but is not currently a regulated outfall in the facility's NPDES permit (renewed on November 1, 2014). With construction of the new facility maintenance building and associated material storage and handling area, Outfall 006 is requested to be added to the discharge permit. Outfall 006 currently discharges UPRR site runoff to a drainage ditch upgradient of Joachim Creek at the northern end of the site. As this outfall is outside of the flood control berm project area, there are no modifications that are proposed to the outfall discharge point at this time.
- The proposed Outfall 007 (treated stormwater and overflow structure) and Outfall 008 (emergency spillway) will be constructed under the proposed De Soto Car Shops Stormwater Conveyance and Treatment System Design Project. Outfall 007 is proposed to discharge to Joachim Creek and Outfall 008 to County Road Tributary as further described below.

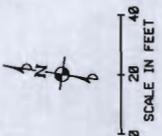
Stormwater Treatment System

The treatment system consists of a holding pond for temporarily storing the volume of the water quality storm event and providing solids settling before flowing to the two enhanced filtration treatment units for removing pollutants from the storm runoff. The holding pond is estimated at 1.0 acres to contain the volume of the design water quality event up to a depth of approximately five feet. The pond is proposed to be earthen berm construction with a low permeability layer, an overflow and an emergency spillway. A triplex pump station will be included and sized to convey the entire pond volume to the two enhanced filtration treatment units over a 48-hour period at a combined rate of 800 gpm. Outfall 008 is the emergency spillway for the proposed holding pond, and will discharge stormwater from the holding pond to County Road Tributary (northwest corner of the pond) during the 100-year (or larger) storm event. The emergency spillway has been sized to handle the maximum pumping rate (water quality flow rate) to the pond. The emergency spillway would only be used if the new Outfall Pipe were to become plugged since the pond is also designed with an Overflow Structure (separate from the emergency spillway and located at an elevation one-foot lower than the emergency spillway) to new Outfall 007.

The proposed enhanced filtration treatment units will be located adjacent to and east of the pond (StormwaterRx Aquip industrial stormwater treatment units). The latest Aquip models are prefabricated steel construction with multiple media layers and can process up to 400 gpm each. The Aquip unit includes a pretreatment chamber upstream of sand filtration, carbon adsorption layer, and selective adsorption layer. The upflow pretreatment chamber typically includes a media for buffering the pH of the stormwater and promoting metals precipitation at more favorable pH conditions as well as a chamber for capturing and settling heavier solids. Overflow from this chamber is distributed across the surface of the sand media by a distribution pipe. The sand media includes both coarse and fine sand layers to promote depth filtration of suspended solid particles. The carbon layer below the sand adsorbs any hydrocarbons present and is intended to safeguard and prolong the life of the selective adsorptive media below. Iron-coated alumina is often used as the adsorptive media to remove dissolved metals commonly found in storm runoff including zinc, lead, and copper. A gravel layer at the bottom surrounds the underdrain pipe system that gravity drains the treatment unit.

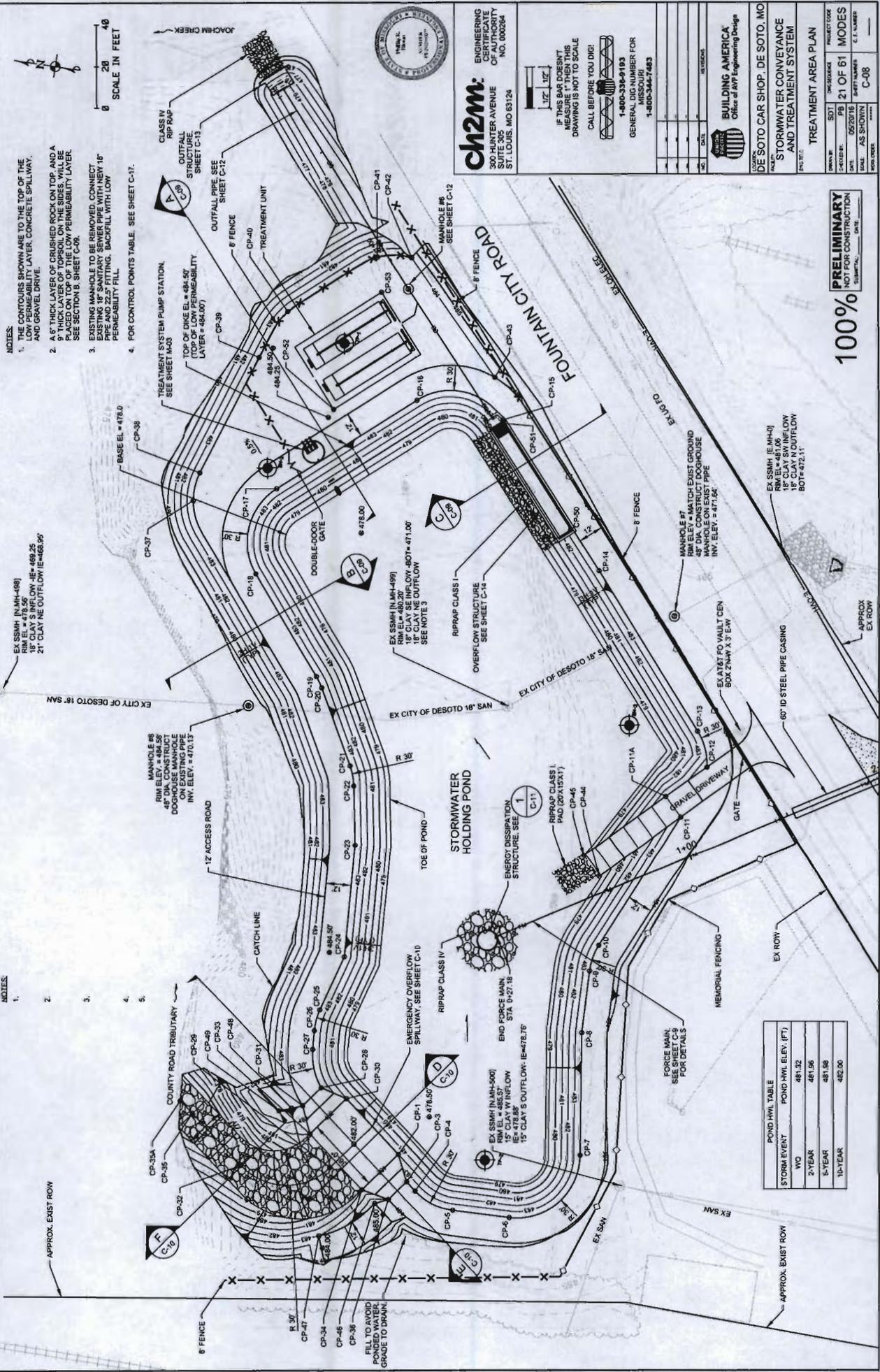
The Aquip units require regular maintenance especially during the rainy season to remove solids buildup on the surface. These units are small enough that workers can scrape the surface using hand tools and remove the solids and a portion of the top sand layer in large buckets typically deposited in drums for landfill disposal. The surface sand needs to be replenished after several "routine" maintenance events to maintain the proper filtration depth with all sand replaced every 2-3 years. The adsorptive layer should maintain treatment capacity for at least 3 years but is dependent on the pollutant loading.

After the treatment systems are installed, the existing De Soto Car Shops stormwater pollution prevention plan (SWPPP) will be modified to incorporate the treatment as a new BMP.



- NOTES:**
1. THE CONTOURS SHOWN ARE TO THE TOP OF THE LOW PERMEABILITY LAYER, CONCRETE SPILLWAY, AND GRAVEL DRIVE.
 2. A 6" THICK LAYER OF CRUSHED ROCK ON TOP, AND A 6" THICK LAYER OF 1/2" SAND ON BOTTOM, ARE TO BE PLACED ON TOP OF THE LOW PERMEABILITY LAYER. SEE SECTION B, SHEET C-09.
 3. EXISTING MANHOLE TO BE REMOVED, CONNECT PIPE AND 22.5" FITTING, BACKFILL WITH LOW PERMEABILITY FILL.
 4. FOR CONTROL POINTS TABLE, SEE SHEET C-17.

- NOTES:**
- 1.
 - 2.
 - 3.
 - 4.
 - 5.



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 ENGINEERING
 CERTIFICATE
 NO. 000264
 ST. LOUIS, MO 63124

IF THIS BAR PRESENT
 MEASURE IT, THEN THIS
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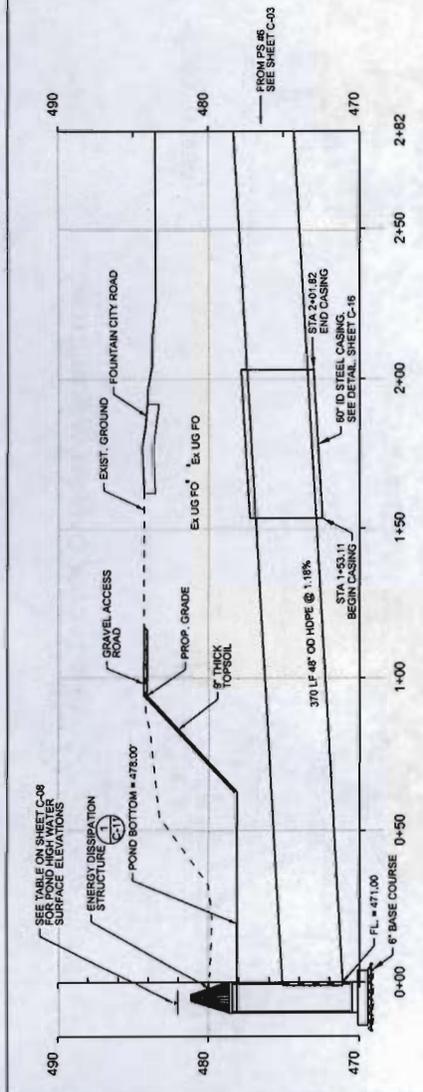
PROJECT NO.	PROJECT CODE
DATE	MODES
DRAWN BY	SHEET NUMBER
CHECKED BY	C.E. NUMBER
DATE	C-08
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 DE SOTO CAR SHOP, DE SOTO, MO
 STORMWATER CONVEYANCE
 AND TREATMENT SYSTEM
 TREATMENT AREA PLAN

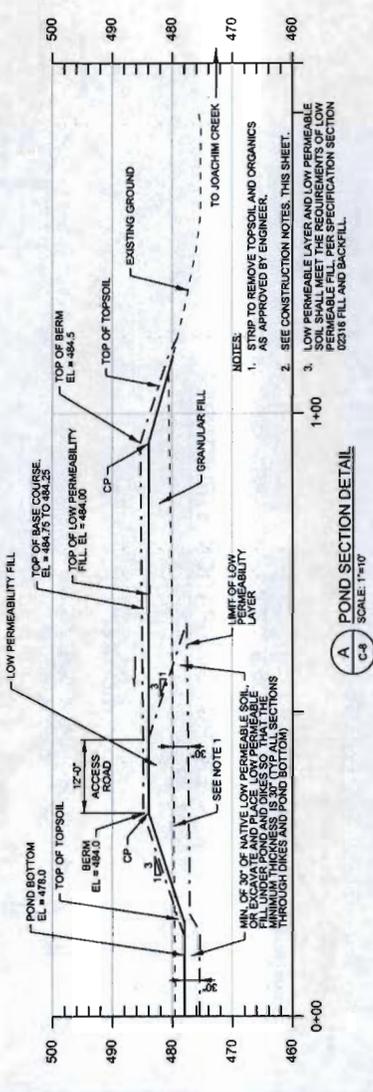
100%
 PRELIMINARY
 NOT FOR CONSTRUCTION

POND HWL TABLE

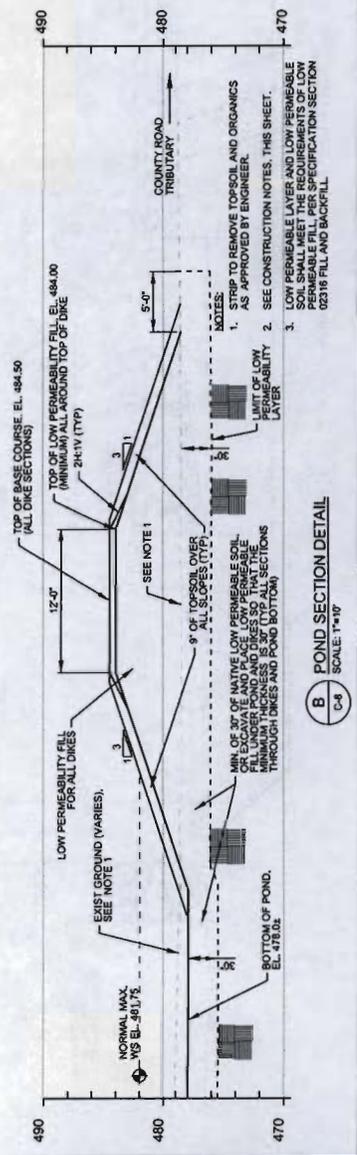
STORM EVENT	POND HWL ELEV. (FT)
WO	481.32
2-YEAR	481.56
5-YEAR	481.88
10-YEAR	482.00



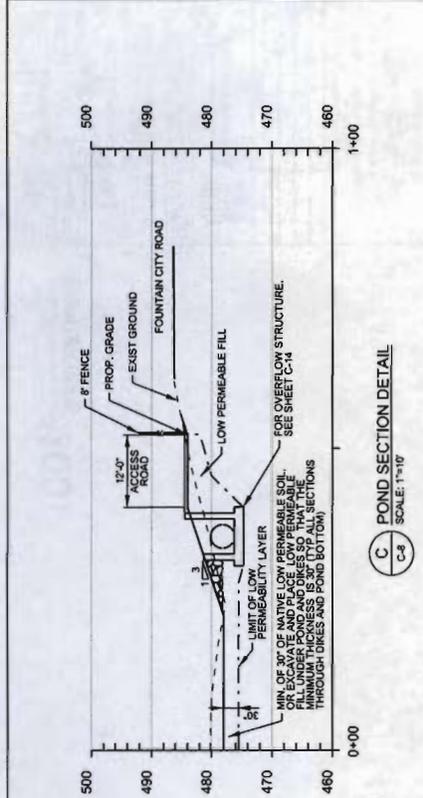
FORCE MAIN PROFILE
SCALE: 1"=10' HORIZONTAL
1"=3' VERTICAL



(A) POND SECTION DETAIL
SCALE: 1"=10'



(B) POND SECTION DETAIL
SCALE: 1"=10'



(C) POND SECTION DETAIL
SCALE: 1"=10'



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OF AGENCY
NO. 000264
300 HUNTER AVENUE
SUITE 305
ST. LOUIS, MO 63124

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DATE	BY	CHK	APP

BUILDING AMERICA
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DE SOTO CAR SHOP, DE SOTO, MO
STORMWATER CONVEYANCE
AND TREATMENT SYSTEM
TREATMENT POND
SECTIONS AND DETAILS

DESIGNER	SDT	DATE	02/20/18
CHECKER	PS	DATE	02/20/18
APPROVER	AS	DATE	02/20/18
PROJECT CODE	C-09	SHEET NUMBER	22 OF 61
C.E. NUMBER	C-09	DATE	

- CONSTRUCTION NOTES:**
- VERIFY SUITABLE FOUNDATION UNDER DIKES AND POND BOTTOM:
DIG SHALLOW TEST PITS AT SUITABLE LOCATIONS AS DIRECTED BY THE ENGINEER TO DETERMINE THE CHARACTERISTICS OF NATIVE SOILS. SOILS MUST BE PROPERLY COMPACTED, STRIPPED, SURFACE AFTER STRIPPING AND REMOVAL OF TOPSOIL.
 - IF LESS THAN 30" OF LOW PERMEABLE SOIL IS FOUND TO EXIST ANYWHERE UNDER THE POND BOTTOM OR UNDER THE DIKES, THEN EXCAVATE ADDITIONAL SOIL TO A SUFFICIENT DEPTH IN THOSE AREAS SO THAT A MINIMUM THICKNESS OF 30" OF LOW PERMEABLE SOIL CAN BE PLACED AND COMPACTED IN THOSE AREAS.
 - SCOURY AND COMPACT SUBGRADE IN ALL AREAS PRIOR TO PROCEEDING WITH PROCEEDING WITH PLACEMENT OF LOW PERMEABLE FILL. PRIOR TO PROCEEDING WITH PLACEMENT OF LOW PERMEABLE FILL.

100% PRELIMINARY
NOT FOR CONSTRUCTION

Attachment B

Missouri NPDES Form A

Attachment C

EPA NPDES Form 2F

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
001B	13.60 acres	13.60 acres	006	9.36 acres	9.36 acres
002	6.35 acres	6.35 acres	007	62.01 acres	62.01 acres
003	6.73 acres	6.73 acres	008	62.01 acres	62.01 acres
004	13.16 acres	13.16 acres			
005	12.81 acres	12.81 acres			

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas, and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

The DeSoto Car Shop facility has maintained the same operations since the industrial stormwater discharge permit was re-issued in November 2014 (originally issued in 2009). The facility conducts the majority of the car repair operations inside buildings or covered areas. Significant materials used onsite with potential exposure to stormwater are rail car components and parts, compressed gas cylinders and bins for collection of solid waste for offsite recycling or offsite disposal.

Pesticides, herbicides, soil conditioners and fertilizers are not applied at the facility.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
001 - 007	Stormwater flows up to the water quality flow rate will be captured from Subbasins 001 - 006 and pumped to a treatment system consisting of a holding pond for temporary storage and sedimentation then conveyed to two enhanced multimedia filter units for removing pollutants from the storm runoff prior to discharge through Outfall 007. Any flow in excess of the defined water quality flow rate will be allowed to discharge into Joachim Creek through existing storm drain system outfalls (001B-006). See attached narrative for more detail. Outfall 008 is the emergency spillway from the holding pond to Joachim Creek via County Rd tributary.	
008		

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharged from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

Stormwater discharge from Outfalls 001 - 005 are currently visually inspected and sampled on the frequency required in the present NPDES stormwater permit. Outfalls 006, 007 and 008 are discharge points proposed to be added to the NPDES permit as described in this permit modification application package.

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

There have been no significant leaks or spills of toxic or hazardous pollutants since the NPDES permit was re-issued in November 2014.

Continued from Page 2

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided.
Table VII-A, VII-B, VII-C are included on separate sheets numbers VII-1 and VII-2.

E. Potential discharges not covered by analysis – is any toxic pollutant listed in table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

Yes (list all such pollutants below) No (go to Section IX)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

Yes (list all such pollutants below) No (go to Section IX)

IX. Contract Analysis Information

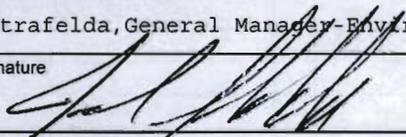
Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

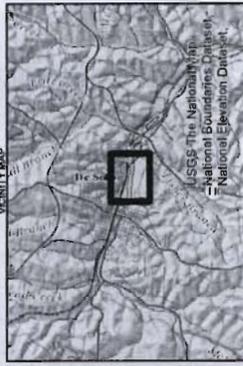
Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below) No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
TestAmerica Laboratories, Inc.	TestAmerica Cedar Falls 704 Enterprise Drive Cedar Falls, IA 50613	(319) 277-2401	Extractable Petroleum Hydrocarbons - Gasoline, Diesel, and Motor Oil Lead (total recoverable) Zinc (total recoverable) Chromium, trivalent (dissolved) Total Suspended Solids Settleable Solids Chemical Oxygen Demand

X. 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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name & Official Title (Type Or Print) J. Strafelda, General Manager - Environmental Management	B. Area Code and Phone No. 402-544-6572
C. Signature 	D. Date Signed 6/10/2016



- LEGEND**
- Outfall Locations
 - Outfall Drainage Basins
 - 1-ft Contours (Project Survey)



- Notes:**
1. Outfall locations approximate and subject to change during proposed treatment system design.
 2. Aerial photo (National Agriculture Imagery Program, 2012).
 3. Areas of potential natural resource concern to include paleontological resources, wetlands, and riparian habitat.
 4. No known areas of storage or disposal of significant materials, herbicides, pesticides, herbicides, and conditioners and fertilizers applications.
 5. No hazardous waste treatment, storage or disposal units.
 6. No underground injection wells.

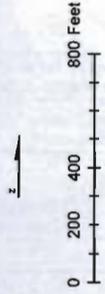


FIGURE 1
Site Drainage Map
 U.S. EPA Form 2F-NPDES
 UPRR De Solto Stormwater Management System
ch2m:

DATE: 01/25/2017 10:58:15 AM PROJECT: UPRR DE SOLTO STORMWATER MANAGEMENT SYSTEM DRAWING: SITE DRAINAGE MAP (FIGURE 1) DRAWING NO: 2016-01-001

