

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-0099503

Owner: Missouri City Landfill, LLC
Address: 5605 Moreau River Access Road, Jefferson City, MO 65101

Continuing Authority: BFI Waste Systems of North America, LLC
Address: 5605 Moreau River Access Road, Jefferson City, MO 65101

Facility Name: BFI Missouri City Landfill
Facility Address: 8501 Stillhouse Road, Liberty, MO 64068

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

Closed Hazardous Waste Landfill - SIC # 4953

This facility does not require a certified wastewater operator. Domestic wastewater is managed by storing in an underground tank, and then sending to a permitted treatment facility.

See page 2 for outfall information.

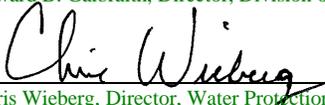
Leachate cannot be discharged from stormwater outfalls #001, #004, #005, & #006. Stormwater that has come into contact with leachate is considered leachate and cannot be discharged from stormwater outfalls.

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

January 1, 2020
Effective Date


Edward B. Galbraith, Director, Division of Environmental Quality

December 31, 2024
Expiration Date


Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

Outfall #001—Stormwater runoff from a closed hazardous waste landfill. Monitoring is not required for this outfall, as all stormwater flow to this outfall is from a closed and capped portion of the landfill which is fully vegetated. No other industrial activity occurs in this area.

Legal Description: SW ¼, SE ¼, Sec. 5, T51N, R30W, Clay County
UTM Coordinates: X= 388587, Y= 4345771
Receiving Stream: Tributary to Cooley Lake
First Classified Stream and ID: 8-20-13 MUDD V 1.0 (C); WBID# 3960
USGS Basin & Sub-watershed No.: (10300101-0307)

Outfall #002—Eliminated in 2018 modification. This outfall has been replaced by outfall #004 as a more appropriate location for monitoring.

Legal Description: Land Grant 2780, Clay County
UTM Coordinates: X=388978, Y= 4345070
Receiving Stream: Tributary to Missouri River
First Classified Stream and ID: 8-20-13 MUDD V 1.0 (C); WBID# 3960
USGS Basin & Sub-watershed No.: (10300101-0307)

Outfall #003—Landfill groundwater and leachate treatment w/Oil and Water Separator/Catalytic Media Filtration/Advanced Oxidation System/UV System/Air Stripper/Liquid Phase Granular - Activated Carbon/Vapor Phase Granular - Activated Carbon/Residual sludge waste stored in a 540 gallon tank and hauled off-site. Monitoring is done at the tank prior to discharge to ensure compliance with this permit; however, the location of outfall #003 is located at the edge of the Missouri City Landfill's property line.

Influent flows to an oil/water separator (OWS) for removal of NAPLs, then to a small break tank for pumping to three, 30,000-gallon storage tanks. These tanks provide flow equalization and allow the treatment unit to operate on a batch basis. Liquid from the 30,000 gallon tanks are pumped through a catalytic media filter for metals removal and then to the advanced oxidation (AO) process. In the AO process, liquid enters an AO reaction tank where hydrogen peroxide is added. The liquid then circulates through an ultraviolet (UV) reactor and the AO reaction tank. Following the AO process, the liquid is pumped through an air stripper and then through liquid phase granular activated carbon before being stored in one of two 250,000-gallon effluent storage tanks. Aerators provide continuous mixing in the effluent tanks. The vapor phase from the air strippers passes through vapor phase granular activated carbon before being discharged to the atmosphere.

Average batch discharge is approximately 205,691 gallons.

Controlled discharge (batch) events shall occur 5 days or more apart and are limited to a maximum effluent flow rate of 180 gpm (0.4 cfs). This value is being considered the design effluent flow of the facility. The maximum volume discharged in a 14 day period shall not exceed 259,200 gallons.

Legal Description: NE ¼, SW ¼, Sec. 8, T51N, R30W, Clay County
UTM Coordinates: X= 387885, Y= 4344777
Receiving Stream: Tributary to Missouri River
First Classified Stream and ID: Missouri River (P) WBID# 0356 (303(d) list)
USGS Basin & Sub-watershed: (10300101-0307)

Outfall #004 – Stormwater runoff from a closed hazardous waste landfill and closed land treatment cells, as well as maintenance buildings and haul road. This receives the discharge previously sampled as “Outfall #002”. This permit does not authorize the discharge of groundwater or contaminated groundwater through this outfall or the previous Outfall #002. All discharges of contaminated groundwater and leachate must be treated by the wastewater treatment system and discharged through outfall #003.

Legal Description: SW ¼, NE ¼, Sec. 8, T51N, R30W, Clay County
UTM Coordinates: X=388369, Y= 4345084
Receiving Stream: Tributary to Missouri River
First Classified Stream and ID: 8-20-13 MUDD V 1.0 (C) WBID# 3960
USGS Basin & Sub-watershed: (10300101-0307)

FACILITY DESCRIPTION (CONTINUED)

Outfall #005 – Stormwater runoff from a closed hazardous waste landfill. This outfall receives some of the runoff that previously went to outfall #001 and outfall #002. This outfall is established to better capture stormwater which actually contacts the industrial areas of the closed and capped landfill. This location is prior to forested areas which were previously captured by stormwater monitoring. This outfall is representative of the eastern side of the closed landfill.

Legal Description: NW ¼, NE ¼, Sec. 8, T51N, R30W, Clay County
UTM Coordinates: X=388503, Y= 4345252
Receiving Stream: Tributary to Missouri River
First Classified Stream and ID: 8-20-13 MUDD V 1.0 (C) WBID# 3960
USGS Basin & Sub-watershed: (10300101-0307)

Outfall #006 – Stormwater runoff from a closed hazardous waste landfill. This outfall is established to better capture stormwater which actually contacts the industrial areas of the closed and capped landfill. This location is prior to forested areas which were previously captured by stormwater monitoring. This outfall is representative of the western side of the closed landfill. Sedimentation basin treatment.

Legal Description: NE ¼, SW ¼, Sec. 8, T51N, R30W, Clay County
UTM Coordinates: X=387910, Y= 4344802
Receiving Stream: Tributary to Missouri River
First Classified Stream and ID: Missouri River (P); WBID# 0356 (303(d) list)
USGS Basin & Sub-watershed: (10300101-0307)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #003 <i>Treated Leachate</i>		TABLE A-1 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:								
EFFLUENT PARAMETERS				UNITS	DAILY MAXIMUM LIMIT	MONTHLY AVERAGE LIMIT	MONITORING REQUIREMENTS	
							MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: W								
WHOLE EFFLUENT TOXICITY (WET)								
Whole Effluent Toxicity, Acute				TU _a	*	-	†	grab
DILUTION SERIES								
AEC%	100% effluent	50% effluent	25% effluent	12.5% effluent	6.25% effluent	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water	
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING TESTING								

† BFINA will conduct WET testing quarterly for two (2) years, beginning March 7, 2019, until March 7, 2021. Quarterly sampling can be conducted any month for which there is a discharge in a quarter (see note ◊ below). If toxic units are greater than 1.0 for either species, BFINA will continue testing until (2) consecutive successful (less than 1.0 TU_a) testing events occur. Following quarterly testing after the second year with no exceedances of 1.0 TU_a, BFINA will perform once yearly WET testing for the duration of the permit period, unless TU_a is greater than 1.0 at any testing event for either species (see TIE/TRE language below). See 10 CSR 20-7.031 (3)(I) 2. For once yearly testing, facility will collect samples from the same batch discharge event as sampled for other permit requirements at outfall #003 (see note †† below).

Acute Whole Effluent Toxicity (WET) tests shall be conducted as follows:

- (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the acute toxicity of NPDES effluents are found in the most recent edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 48-hour, static, non-renewal toxicity tests with the following species:
 - o The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
 - o The daphnid, *Ceriodaphnia dubia* (Acute Toxicity EPA Test Method 2002.0).
- (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
- (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
- (d) The Allowable Effluent Concentration (AEC) for this facility is 100% with the dilution series being: 100%, 50%, 25%, 12.5%, and 6.25%.
- (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
- (f) All chemical analyses shall be performed and results shall be recorded in the appropriate field of the report form. The parameters for chemical analysis include Temperature (°F); pH (SU); Conductivity (µmhos/cm); Dissolved Oxygen (mg/L); Ammonia as N (mg/L); aluminum, total recoverable; Aniline, Naphthalene, benzoic acid, 2,4,5-Trichlorophenol; Disulfoton; total organic carbon, and chloride.
- (g) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of acute toxic units (TU_a = 100/LC₅₀) reported according to the test methods manual chapter on report preparation and test review. The Lethal Concentration 50 Percent (LC₅₀) is the effluent concentration that would cause death in 50 percent of the test organisms at a specific time.
- (h) Accelerated Testing Trigger: If any regularly scheduled acute WET test exceeds one (1.0) TU_a, permittee shall conduct accelerated WET testing as prescribed in the following conditions:
 - (1) A multiple dilution test shall be performed for both test species within 60 calendar days of becoming aware the regularly scheduled WET test exceeded a TU_a limit, and once every two weeks thereafter until one of the following conditions are met:
 - i. Three consecutive multiple-dilution tests are below the TU_a limit. No further tests need to be performed until next regularly scheduled test period.
 - ii. A total of three multiple-dilution tests exceed the TU_a limit.
 - (2) Follow-up tests do not negate an initial test result.
 - (3) The permittee shall submit a summary of all accelerated WET test results for the test series along with complete copies of the laboratory reports as received from the laboratory within 14 calendar days of the availability of the third test exceeding a TU_a limit. Results of the follow-up accelerated WET testing shall be reported to the Department’s Central office (WPP) in TU_a.
- (i) TIE/TRE Trigger: The following shall apply upon the exceedance of one (1.0) TU_a in three accelerated follow-up WET tests. The permittee should contact the Department Water Protection Program Central Office within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact the Department upon the third follow up test exceeding a TU_a limit, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE within 60 calendar days of the date of the automatic trigger or the department’s direction to perform either a TIE or TRE. The plan shall be based on EPA Methods and include a schedule for completion. This plan must be approved by the department before the TIE or TRE is begun.

See additional Table Notes on Page 10 and 11.

OUTFALL #003 <i>Treated Leachate</i>	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 January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM LIMIT	MONTHLY AVERAGE LIMIT	MONITORING REQUIREMENTS	
				MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: B					
PHYSICAL					
Flow, Batch Total	gpd	*	-	once/batch ††	24 hr. total
Flow, Monthly Total (LIMIT SET FM)	gallons	***	-	monthly	calculated
Flow Rate	gpm	180	-	once/batch ††	measured
CONVENTIONAL					
Biochemical Oxygen Demand (BOD ₅)	mg/L	15	10	once/batch ††	grab
Chemical Oxygen Demand (COD)	mg/L	*	*	once/batch ††	grab
pH *	SU	6.5 to 9.0	-	once/batch ††	grab
Total Suspended Solids	mg/L	20	15	once/batch ††	grab
ELG					
α-Terpineol	µg/L	42	19	once/batch ††	grab
Aniline	µg/L	24	15	once/batch ††	grab
Benzoic Acid	µg/L	119	73	once/batch ††	grab
Naphthalene	µg/L	59	22	once/batch ††	grab
p-Cresol	µg/L	24	15	once/batch ††	grab
Phenol	µg/L	48	29	once/batch ††	grab
Pyridine	µg/L	72	25	once/batch ††	grab
ELG NUTRIENTS					
Ammonia as N	mg/L	10	4.9	once/batch ††	grab
ELG METALS					
Arsenic, Total Recoverable	µg/L	1100	540	once/batch ††	grab
Chromium, Total Recoverable	µg/L	1100	460	once/batch ††	grab
Zinc, Total Recoverable	µg/L	535	296	once/batch ††	grab
METALS					
Total Hardness as CaCO ₃	mg/L	*	-	once/batch ††	grab
Aluminum, Total Recoverable	µg/L	*	-	once/batch ††	grab
Cadmium, Total Recoverable	µg/L	*	-	once/batch ††	grab
Chromium (III), Total Recoverable	µg/L	*	-	once/batch ††	grab
Chromium (VI), Dissolved	µg/L	*	-	once/batch ††	grab
Iron, Total Recoverable	µg/L	1643	-	once/batch ††	grab
Manganese, Total Recoverable	µg/L	*	-	once/batch ††	grab
Nickel, Total Recoverable	µg/L	*	-	once/batch ††	grab
OTHER					
2-Methylnaphthalene	µg/L	*	-	once/batch ††	grab
2,4,5-Trichlorophenol	µg/L	*	-	once/batch ††	grab
α-BHC (note 1)	µg/L	*	-	once/batch ††	grab
Chloride	mg/L	*	-	once/batch ††	grab
Chloride + Sulfate	mg/L	*	-	once/batch ††	grab
cis-1,2-Dichloroethylene	µg/L	*	-	once/batch ††	grab
Disulfoton	µg/L	*	-	once/batch ††	grab
Methyl-4-chloro-phenoxypropionic acid (MCP)	µg/L	*	-	once/batch ††	grab
Sulfate	mg/L	*	-	once/batch ††	grab
Sulfide	mg/L	*	-	once/batch ††	grab
Toluene	µg/L	*	-	once/batch ††	grab

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

Outfall #003 parameters continued on pages 6 and 7. Notes on Page 10 and 11.

OUTFALL #003 <i>Treated Leachate</i>	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 January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM LIMIT	MONTHLY AVERAGE LIMIT	MONITORING REQUIREMENTS	
				MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: 2X					
METALS (BIANNUAL)					
Antimony, Total Recoverable	µg/L	*	-	twice/year ‡	grab
Barium, Total Recoverable	µg/L	*	-	twice/year ‡	grab
Boron, Total Recoverable	µg/L	*	-	twice/year ‡	grab
Vanadium, Total Recoverable	µg/L	*	-	twice/year ‡	grab
NUTRIENTS					
Nitrate as N	mg/L	*	-	twice/year ‡	grab
OTHER					
Fluoride	mg/L	*	-	twice/year ‡	grab
Sodium, Total as Na	mg/L	*	-	twice/year ‡	grab
OTHER					
o,o,o-Triethyl Phosphorothioate	µg/L	*	-	twice/year ‡	grab
1,1,1-Trichloroethane	µg/L	*	-	twice/year ‡	grab
1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane (4,4-DDD) (note 1)	µg/L	*	-	twice/year ‡	grab
1,1-Dichloroethane	µg/L	*	-	twice/year ‡	grab
1,1-Dichloroethene	µg/L	*	-	twice/year ‡	grab
1,2,4-Trichlorobenzene	µg/L	*	-	twice/year ‡	grab
1,2,4,5-Tetrachlorobenzene (note 1)	µg/L	*	-	twice/year ‡	grab
1,2-Dichloroethane	µg/L	*	-	twice/year ‡	grab
1,2-Dichloropropane	µg/L	*	-	twice/year ‡	grab
1,4-Dioxane	µg/L	*	-	twice/year ‡	grab
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)	µg/L	*	-	twice/year ‡	grab
2,4,6-Trichlorophenol	µg/L	*	-	twice/year ‡	grab
2,4-Dichlorophenol	µg/L	*	-	twice/year ‡	grab
2,4-Dichlorophenoxyacetic Acid (2,4-D)	µg/L	*	-	twice/year ‡	grab
2,6-Dichlorophenol	µg/L	*	-	twice/year ‡	grab
2-Chlorophenol	µg/L	*	-	twice/year ‡	grab
2-Methylphenol (o-Cresol)	µg/L	*	-	twice/year ‡	grab
4-Chloro-3-Methylphenol	µg/L	*	-	twice/year ‡	grab
4-Methyl-2-Pentanone (MIBK)	µg/L	*	-	twice/year ‡	grab
Acetone	µg/L	*	-	twice/year ‡	grab
Benzene	µg/L	*	-	twice/year ‡	grab
Benzyl Alcohol	µg/L	*	-	twice/year ‡	grab
Carbon Disulfide	µg/L	*	-	twice/year ‡	grab
Chlorobenzene	µg/L	*	-	twice/year ‡	grab
Chloroethane	µg/L	*	-	twice/year ‡	grab
Chloroform	µg/L	*	-	twice/year ‡	grab
Demeton	µg/L	*	-	twice/year ‡	grab
Dichlorodiphenyltrichloroethane (4,4-DDT) (note 1)	µg/L	*	-	twice/year ‡	grab
Diethyl Phthalate	µg/L	*	-	twice/year ‡	grab
Ethylbenzene	µg/L	*	-	twice/year ‡	grab

Outfall #003 parameters continued on page 7. Notes on Page 10 and 11.

OUTFALL #003 <i>Treated Leachate</i>	TABLE A-4 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM LIMIT	ML AND METHOD ††	MONITORING REQUIREMENTS	
				MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: 2X					
OTHER, CONTINUED					
Merphos	µg/L	*	-	twice/year †	grab
Methylene Chloride (DCM)	µg/L	*	-	twice/year †	grab
Naled	µg/L	*	-	twice/year †	grab
Pentachlorobenzene (note 1)	µg/L	*	-	twice/year †	grab
Phorate	µg/L	*	-	twice/year †	grab
Ronnell	µg/L	*	-	twice/year †	grab
Silvex (2,4,5-TP)	µg/L	*	-	twice/year †	grab
Tetrachloroethylene (PERC)	µg/L	*	-	twice/year †	grab
trans-1,2-Dichloroethene	µg/L	*	-	twice/year †	grab
Trichloroethene	µg/L	*	-	twice/year †	grab
Trichlorofluoromethane	µg/L	*	-	twice/year †	grab
Vinyl Chloride	µg/L	*	-	twice/year †	grab
Xylenes, Total	µg/L	*	-	twice/year †	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>TWICE PER YEAR</u> ; THE FIRST REPORT IS DUE <u>JULY 28, 2020</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

OUTFALL #003 <i>Treated Leachate</i>	TABLE A-5 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM LIMIT	MONTHLY AVERAGE LIMIT	MONITORING REQUIREMENTS	
				MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: QN					
NUTRIENTS					
Nitrogen, Total (TN)	mg/L	*	-	once/quarter ◇	grab
Nitrogen, Total Kjeldahl (TKN)	mg/L	*	-	once/quarter ◇	grab
Nitrite plus Nitrate	mg/L	*	-	once/quarter ◇	grab
Phosphorus, Total (TP)	mg/L	*	-	once/quarter ◇	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>APRIL 28, 2020</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

See notes on page 10 and 11.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #004, #005, #006 <i>Stormwater Only</i>		TABLE A-6 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS			
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM LIMIT	BENCHMARKS	MONITORING REQUIREMENTS **	
				MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: SQ					
PHYSICAL					
Flow	MGD	*	-	once/quarter ◇	24 hr. est.
Precipitation	inches	*	-	once/quarter ◇	24 hr total
CONVENTIONAL					
Chemical Oxygen Demand (COD)	mg/L	**	120	once/quarter ◇	grab
Oil & Grease	mg/L	**	10	once/quarter ◇	grab
pH ††	SU	6.5 to 9.0	-	once/quarter ◇	grab
Settleable Solids	mL/L/hr	**	1.5	once/quarter ◇	grab
Total Suspended Solids	mg/L	**	100	once/quarter ◇	grab
METALS					
Beryllium, Total Recoverable	µg/L	*	-	once/quarter ◇	grab
Cadmium, Total Recoverable	µg/L	*	-	once/quarter ◇	grab
Chromium (VI), Dissolved	µg/L	*	-	once/quarter ◇	grab
Copper, Total Recoverable	µg/L	*	-	once/quarter ◇	grab
Iron, Total Recoverable	µg/L	**	4000	once/quarter ◇	grab
Manganese, Total Recoverable	µg/L	*	-	once/quarter ◇	grab
Selenium, Total Recoverable (note 1)	µg/L	*	-	once/quarter ◇	grab
Silver, Total Recoverable	µg/L	*	-	once/quarter ◇	grab
Zinc, Total Recoverable	µg/L	*	-	once/quarter ◇	grab
NUTRIENTS					
Ammonia as N	mg/L	*	-	once/quarter ◇	grab
OTHER					
Benzene	µg/L	*	-	once/quarter ◇	grab
Chloride	mg/L	*	-	once/quarter ◇	grab
Chloride + Sulfate	mg/L	**	1000	once/quarter ◇	grab
OTHER (OUTFALL #004 ONLY)					
1,1-Dichloroethylene (1,1-DCE)	µg/L	*	-	once/quarter ◇	grab
Disulfoton	µg/L	*	-	once/quarter ◇	grab
Lindane (γ-BHC)	µg/L	*	-	once/quarter ◇	grab
o,o,o-Triethyl Phosphorothioate	µg/L	*	-	once/quarter ◇	grab
Tetrachloroethylene (PERC)	µg/L	*	-	once/quarter ◇	grab
Trichloroethylene (TCE)	µg/L	*	-	once/quarter ◇	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>APRIL 28, 2020</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

See notes on Page 10 and 11.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #004, #005, #006 <i>Stormwater Only</i>		TABLE A-7 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS			
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on January 1, 2020 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:					
EFFLUENT PARAMETERS	UNITS	DAILY MAXIMUM LIMIT	BENCHMARKS	MONITORING REQUIREMENTS **	
				MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: SA					
METALS					
Arsenic, Total Recoverable	µg/L	*	-	once/year	grab
Barium, Total Recoverable	µg/L	*	-	once/year	grab
Lead, Total Recoverable	µg/L	*	-	once/year	grab
Mercury, Total Recoverable	µg/L	*	-	once/year	grab
Thallium, Total Recoverable (note 1)	µg/L	*	-	once/year	grab
OTHER (OUTFALL #004 ONLY)					
1,1,1-Trichloroethane	µg/L	*	-	once/year	grab
1,2-cis-Dichloroethylene (1,2-DCE)	µg/L	*	-	once/year	grab
2,4,5-Trichlorophenol (2,4,5-TP)	µg/L	*	-	once/year	grab
Benzoic Acid	µg/L	*	-	once/year	grab
Chloroethane	µg/L	*	-	once/year	grab
Chloroform	µg/L	*	-	once/year	grab
Demeton (Systox)	µg/L	*	-	once/year	grab
Diethyl Phthalate	µg/L	*	-	once/year	grab
Ethylbenzene	µg/L	*	-	once/year	grab
MCPP (Mecoprop)	µg/L	*	-	once/year	grab
Naled (Dibrom)	µg/L	*	-	once/year	grab
p-Cresol	µg/L	*	-	once/year	grab
Phenol	µg/L	*	-	once/year	grab
Phorate	µg/L	*	-	once/year	grab
α-Terpineol	µg/L	*	-	once/year	grab
Toluene	µg/L	*	-	once/year	grab
Xylene	µg/L	*	-	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2021</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

See notes on Page 10 and 11.

Notes:

* Monitoring and reporting requirement only

** Monitoring and reporting requirement with benchmark. See Special Conditions for additional requirements.

*** The facility is limited to a maximum of no more than 259,200 gallons total discharge from outfall #003 every 14 days. The total flow of each batch discharge in the 14 day period will be added together for the total amount of flow. This parameter will be found in Limit Set C for electronic reporting (eDMR) purposes. The permittee shall attach a sheet to the eDMR report with a spreadsheet showing the date of each batch discharge and the total flow of each batch discharge, with a column with a rolling total of discharge for each 14 day period.

†† Outfall #003 Controlled Discharges:

- (a) The term “controlled discharge” used herein shall mean a discharge event to allow water to flow from the facility through the permitted outfall into the receiving stream that is initiated by the operator by means of opening a single or multiple valves, gates, or other operational control and then stopped by the operator by closing the same valves, gates, or other operational control.
- (b) Controlled discharge events shall not occur less than 5 days apart and are limited to a maximum effluent flow of 180 gpm (0.4 cfs).
- (c) Controlled discharge events shall not be longer than 24 hours in duration.
- (d) Sampling for these effluent parameters in Table A2 and WET test (if required) during a batch release shall be conducted as follows: Before water in a storage tank is discharged, a single grab sample will be collected from the tank. BFI shall discharge effluent from the storage tanks only after sampling confirms that treated water meets applicable discharge requirements.
- (e) Effluent limitations shall not be violated at any time during a controlled discharge. In the event that samples taken from a storage tank do not meet discharge limits and requirements for outfall #003, the water shall be re-introduced to the treatment unit for additional treatment. If effluent exceeds the applicable limits in Table A1 of the permit, the facility shall re-introduce the water into the treatment system for additional treatment until it meets limits before discharge.
- (f) To avoid adversely affecting the hydrology of the receiving stream, means to dissipate the energy of the controlled discharge flow shall be provided. Energy dissipation shall be provided by rip-rap, diffuser, or other Department approved method.
- (g) Discharge Monitoring Reports shall be submitted monthly. If no batch discharge occurs in a month, “No-Discharge” shall be reported on the report. All batch discharges must be reported; if more than one discharge event occurs in one month, the additional data will be submitted as an attachment to the eDMR report.

The permitting of the discharge to Outfall #003 is the product of coordination between the Water Protection Program and the Waste Management Program. If the permittee has a confirmed detection of a pollutant as a result of sampling associated with the stream bank interceptor trench (Sump 3 and the new sump) for the Waste Management Program, and the parameter is not already listed in the above tables of this NPDES permit, the permittee shall notify the Water Protection Program in writing of the new parameter for potential inclusion in the list of biannual monitoring.

‡ These parameters shall be sampled twice per year, at least three months apart, and as described above in note ††, Outfall #003 Controlled Discharges. The twice yearly sampling/reporting schedule is as follows:

MINIMUM BI-ANNUAL SAMPLING REQUIREMENTS			
	MONTHS	EFFLUENT PARAMETERS	REPORT IS DUE
First Half of Year	January, February, March, April, May, June	Sample at least once during any month of the half year, at least three months from the last test.	July 28 th
Second Half of Year	July, August, September, October, November, December	Sample at least once during any month of the half year, at least three months from the last test.	January 28 th

** pH: the facility will report the minimum and maximum values; pH is not to be averaged.

** Precipitation Event Monitoring Requirement: all samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and occurring at least 72 hours from the previously measurable precipitation event. If a discharge 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.

Notes, Continued:

◇ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS			
QUARTER	MONTHS	QUARTERLY 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 This permit establishes effluent monitoring for the following pollutants:

αBHC, also known as Alpha-1,2,3,4,5,6-hexachlorocyclohexane has water quality standards below the accepted minimum quantification level (ML). The Department has determined the appropriate analytical method for this parameter is EPA Part 136 approved Method 608. The permittee will conduct analyses in accordance with this method, or equivalent.

1,2,4,5-Tetrachlorobenzene has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 8270, preparation method EPA 3510. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

4,4-DDT has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 608. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

Pentachlorobenzene has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 8270, preparation method EPA 3510. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

1,1-Dichloro-2,2-Bis(p-chlorophenyl)Ethane (4,4-DDD) has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 608. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

B. SCHEDULE OF COMPLIANCE

Schedules of compliance are allowed per 40 CFR 122.47. The facility shall attain compliance with final effluent limitations established in this permit as soon as reasonably achievable:

The facility shall comply with interim conditions as required by the WET testing requirements in Table A-1 and note †. The two year period of quarterly monitoring for WET testing shall end on March 7, 2021. The final quarterly WET report will be due April 28, 2021.

C. 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.

D. SLUDGE HANDLING SPECIAL CONDITIONS

1. Disposal of residual waste sludge is not authorized by this permit. All residual waste sludge shall be considered hazardous waste and shall be disposed at a permitted hazardous waste disposal facility pursuant to 10 CSR 25. The handling and disposal information shall be submitted to the Waste Management Program on the Facility and Hazardous Waste Generator Summary Report on an annual basis.
2. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under the Clean Water Act.

E. SPECIAL CONDITIONS

1. The treated water from the water treatment facility is technically Resource Conservation and Recovery Act (RCRA) waste until discharged from Outfall #003 via an NPDES permit. Waste water must be treated and discharged in accordance with this permit, or hauled off-site for disposal, within 90 days of generation. If all storage capacity is used or the treatment system cannot discharge for any reason, the untreated or treated water must be hauled off-site for disposal.
2. Spills, Overflows, and Other Unauthorized Discharges.
 - (a) Any spill, overflow, or other discharge(s) not specifically authorized in the permit above are unauthorized discharges.
 - (b) Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.
3. Electronic Discharge Monitoring Report (eDMR) Submission System.
 - (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. Standard Conditions Part I, Section B, #7 indicates the eDMR system is currently the only Department approved reporting method for this permit.
 - (b) Programmatic Reporting Requirements. All reports must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data. After such a system has been made available by the Department, required data shall be directly input into the system by the next report due date
 - (1) Schedule of Compliance Progress Reports;
 - (2) Whole Effluent Toxicity (WET) Reports;
 - (3) Any additional report required by the permit excluding bypass reporting.
 - (c) The following shall be submitted electronically after such a system has been made available by the Department:
 - (1) General Permit Applications/Notices of Intent to discharge (NOIs);
 - (2) Notices of Termination (NOTs);
 - (3) No Exposure Certifications (NOEs);
 - (4) Low Erosivity Waivers, and Other Waivers from Stormwater Controls (LEWs); and
 - (d) Electronic Submission: access the eDMR system via: <https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx>
 - (e) Electronic Reporting Waivers. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the Department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. The Department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period the approved electronic reporting waiver is effective.
4. Stormwater Pollution Prevention Plan (SWPPP).

The facility's SIC code or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) and hence, the facility shall implement a Stormwater Pollution Prevention Plan (SWPPP) which must be prepared and implemented upon permit effective date. 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 annually or if site conditions affecting stormwater change. 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 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective at preventing pollution [10 CSR 20-2.010(56)] to waters of the state. Corrective action describes the steps the facility took to eliminate the deficiency.

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.
 - (b) A map with all outfalls and structural BMPs marked.
 - (c) A schedule for at least once per month site inspections and brief written reports. 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 (deficiencies projected to take longer than 14 days to correct) must be reported as an uploaded attachment through the eDMR system with the DMRs. The initial report shall consist of the deficiency noted,

the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. If required by the Department, the permittee shall work with the regional office to determine the best course of action. The permittee should consider 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, and kept with the SWPPP. Additionally, corrective action of major structural deficiencies shall be reported as an uploaded attachment through the eDMR system with the DMRs.
 - v. BMP failure causing discharge through an unregistered outfall is considered an illicit discharge and must be reported in accordance with Standard Conditions Part I.
 - vi. 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 personnel upon request. Electronic versions of the documents and photographs are acceptable.
- (d) A provision for designating an individual to be responsible for environmental matters and a provision for providing training to all personnel involved in housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas. Proof of training shall be submitted upon request by the Department.
5. Site-wide minimum Best Management Practices (BMPs). At a minimum, the permittee shall adhere to the following:
- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, and thereby prevent the contamination of stormwater from these substances.
 - (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
 - (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater 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. Spill records should be retained on-site.
 - (d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
 - (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.
6. Stormwater Benchmarks. This permit stipulates pollutant benchmarks applicable to your discharge.
- (a) 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 the 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 the pollutant in your stormwater discharge(s).
 - (b) Any time a benchmark exceedance occurs, a Corrective Action Report (CAR) must be completed. A CAR is a document recording the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and be 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 measureable progress towards achieving the benchmarks is a permit violation.
7. Petroleum Secondary Containment.
- Before releasing water accumulated in petroleum secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen to protect the general criteria found at 10 CSR 20-7.031(4).
- (a) If odor or sheen is found, the water shall not be discharged without treatment and shall be disposed of in accordance with legally approved methods, such as being sent to an accepting wastewater treatment facility.
 - (b) If the facility wishes to discharge the accumulated stormwater with hydrocarbon odor or presence of sheen, the water shall be treated using an appropriate removal method. Following treatment and before release, 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 before discharge is authorized. Records of all testing and treatment of water accumulated in secondary containment shall be stored in the SWPPP and be available on demand to the Department.
8. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the CWA section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued to

comply with any applicable effluent standard or limitation issued or approved under Clean Water Act Sections 301(b)(2)(C) and (D), §304(b)(2), and §307(a) (2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

9. All outfalls must be clearly marked in the field.
10. Report no discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.
11. Changes in Discharges of Toxic Pollutant.
In addition to the reporting requirements under §122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
 - (a) That an activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, 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;
 - (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
 - (4) One milligram per liter (1 mg/L) for antimony;
 - (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (6) The notification level established by the Department in accordance with 40 CFR 122.44(f).
 - (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with §122.21(g)(7).
 - (4) The level established by the Director in accordance with §122.44(f).
12. Reporting of Non-Detects.
 - (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way 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 or the reporting limit of the laboratory. Reporting as “non-detect” without also including the detection/reporting 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 “<” symbol and the laboratory’s detection/reporting limit (e.g. <6).
 - (d) See sufficiently sensitive method requirements in Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
 - (e) 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).
13. Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo).
14. This permit does not cover land disturbance activities.
15. This permit does not authorize the placement of fill materials in flood plains, placement of solid materials into any waterway, the obstruction of stream flow, or changing the channel of a defined drainage course. The facility must contact the U.S. Army Corps of Engineers (Corps) to determine if a CWA §404 Department of Army permit is required.
16. Per Standard Conditions Part I (August 1, 2014), 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.
17. The facility shall change the filter media for both the activated carbon and the catalytic media filtration system at times which keep the system operating optimally.

F. TECHNOLOGY BASED LIMITATIONS FOR POLLUTANTS - REPORT

In the fourth (4th) year of the permit, the permittee shall develop and submit a report on the development of technology based limitations. The report shall include proposals for technology based limits for the following pollutants contained in Table A-2 and A-3 of the permit:

Metals

Aluminum, Total Recoverable
Cadmium, Total Recoverable
Chromium (III), Total Recoverable
Chromium (VI), Dissolved
Iron, Total Recoverable
Manganese, Total Recoverable
Nickel, Total Recoverable
Antimony, Total Recoverable
Barium, Total Recoverable
Boron, Total Recoverable
Vanadium, Total Recoverable

Other

Chloride
Chloride + Sulfate
Sulfate
Sulfide
o,o,o-Triethyl Phosphorothioate
1,1,1-Trichloroethane
1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane (4,4-DDD) (note 1)
1,1-Dichloroethane
1,1-Dichloroethene
1,2,4-Trichlorobenzene
1,2,4,5-Tetrachlorobenzene (note 1)
1,2-Dichloroethane
1,2-Dichloropropane
1,4-Dioxane
2,4,5-Trichlorophenol
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dichlorophenoxyacetic Acid (2,4-D)
2,6-Dichlorophenol
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol (o-Cresol)
4-Chloro-3-Methylphenol
4-Methyl-2-Pentanone (MIBK)
 α -BHC
Acetone
Benzene
Benzyl Alcohol
Carbon Disulfide
Chlorobenzene
Chloroethane
Chloroform
cis-1,2-Dichloroethylene
Demeton
Dichlorodiphenyltrichloroethane (4,4-DDT) (note 1)
Diethyl Phthalate
Disulfoton
Ethylbenzene
Merphos
Methyl-4-chloro-phenoxypropionic acid (MCP)
Methylene Chloride (DCM)

Naled
Pentachlorobenzene (note 1)
Phorate
Ronnal
Silvex (2,4,5-TP)
Tetrachloroethylene (PERC)
Toluene
trans-1,2-Dichloroethene
Trichloroethene
Trichlorofluoromethane
Vinyl Chloride
Xylenes, Total

The report shall contain, at a minimum, the following information:

1. Copies of all laboratory data sheets for analyses of parameters discharged from outfall #003 in the permit cycle.
2. An excel spreadsheet of all laboratory results recorded on the laboratory data sheets.
3. A statistical analysis of data, including determination of the coefficient of variation and identification of any anomalies.
4. Records of maintenance for the system, including filtration media changes.
5. A proposal and justifications for technology based limitations on all parameters listed above following guidance found in 125.3(d)(3) and the EPA permit writer's manual, Chapter 5.2.3.

The final report shall be due October 28th, 2023.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0099503
BFI MISSOURI CITY LANDFILL

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

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or operating permit) listed below. A factsheet is not an enforceable part of an operating permit.

PART I. FACILITY INFORMATION

Facility Type:	Industrial –Categorical; <1 MGD
SIC Code(s):	4953
Application Date:	04/03/2019
Modification Date:	02/01/2019
Expiration Date:	09/30/2019
Last Inspection:	06/04/2015

FACILITY DESCRIPTION:

BFI Missouri City Landfill is a closed sanitary and hazardous waste landfill. It accepted both municipal solid waste and industrial solid waste. It is found on the Missouri Registry Annual Report as a Class 2 site due to industrial wastes which were historically deposited at the landfill. Class 2 sites are defined as a significant threat to the environment--action required. The BFI Missouri City Landfill is owned and operated by BFI Waste System of North America (BFINA). The landfill operated from November 1972 to September 1983 when BFINA discontinued operations. The landfill received closure certification in November 1987. Waste management activities included a sanitary landfill and chemical process center where bulk liquids wastes were received for temporary storage and treated. At least 160 million pounds of industrial wastes were deposited at the site. The landfill received solvents (VOC and SVOC), herbicide wastes, organophosphate pesticides, waste acids, waste oils (non-aqueous phase liquids), industrial wastewater treatment sludge, paint sludge, and heavy metal sludge.

The landfill has three outfalls for stormwater associated with industrial activities, designated outfall #004, outfall #005, and outfall #006. There are no structural Best Management Practices (BMPs) used at these outfalls at the time of permitting. The landfill also has an onsite subsurface system for domestic waste. Due to the small size of the system, it is under the jurisdiction of either DHSS or the local public health agency.

BFINA has a wastewater treatment unit constructed as a part of a Resource Conservation and Recovery Act (RCRA) corrective action measure to prevent the discharge of impacted groundwater to surface water at the landfill. The water treatment unit treats only water originating at the Missouri City Landfill. Water from other sources will not be accepted or processed by this facility.

The wastewater treatment facility discharges through outfall #003; however, monitoring for outfall #003 is done at the tank to ensure compliance with the permit limitations prior to discharge. As a result of the submitted alternative analysis for discharge from Outfall #003, the applicant's preferred alternative is Multi-Unit Process Advanced Oxidation System (AO System). The description of the treatment process is as follows:

Influent flows to an oil/water separator for removal of non-Aqueous phase liquids, then to a small break tank for pumping to three, 30,000-gallon storage tanks. These tanks provide flow equalization and allow the treatment unit to operate on a batch basis. Liquid from the 30,000 gallon tanks is pumped through a catalytic media filter for metals removal and then to the advanced oxidation (AO) process. In the AO process, liquid enters an AO reaction tank where hydrogen peroxide is added. The liquid then circulates through an

ultraviolet reactor and the AO reaction tank. Following the AO process, the liquid is pumped through an air stripper and then through liquid phase granular activated carbon before being stored in one of two 250,000-gallon effluent storage tanks. Aerators provide continuous mixing in the effluent tanks. The vapor phase from the air strippers passes through vapor phase granular activated carbon before being discharged to the atmosphere. AO treatment was determined to be the best treatment available for the water at this site through an antidegradation review performed in December 2012, and is designed to treat the water to meet water quality standards before discharge. Water which does not meet water quality standards found at 10 CSR 20-7.031 shall not be discharged to outfall #003.

The design flow of the treatment plant will be variable (Section 4.2 of the *Water Quality and Antidegradation Review (WQAR) for the Missouri City Landfill, Revision 1*). Under normal operations, BFINA expects a total influent flow rate of approximately 2.6 gpm (3,744 gallons per day [gpd]) with a maximum flow rate of 5 gpm (7,200 gpd) BFINA discharges effluent over a 12- to 24-hour period every two to four weeks. Effluent flow rates are expected to range from 45 gpm (0.1 cubic foot per second [cfs]) to 180 gpm (0.4 cfs), depending on the discharge scenario.

The charter number for the continuing authority for this facility is FL0887306; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility.

In accordance with 40 CFR 122.21(f)(6), the Department evaluated other permits currently held by this facility. This facility has the following permits: Missouri Hazardous Waste Management Facility Part 1 permit #MOD000624452.

PERMITTED FEATURES TABLE:

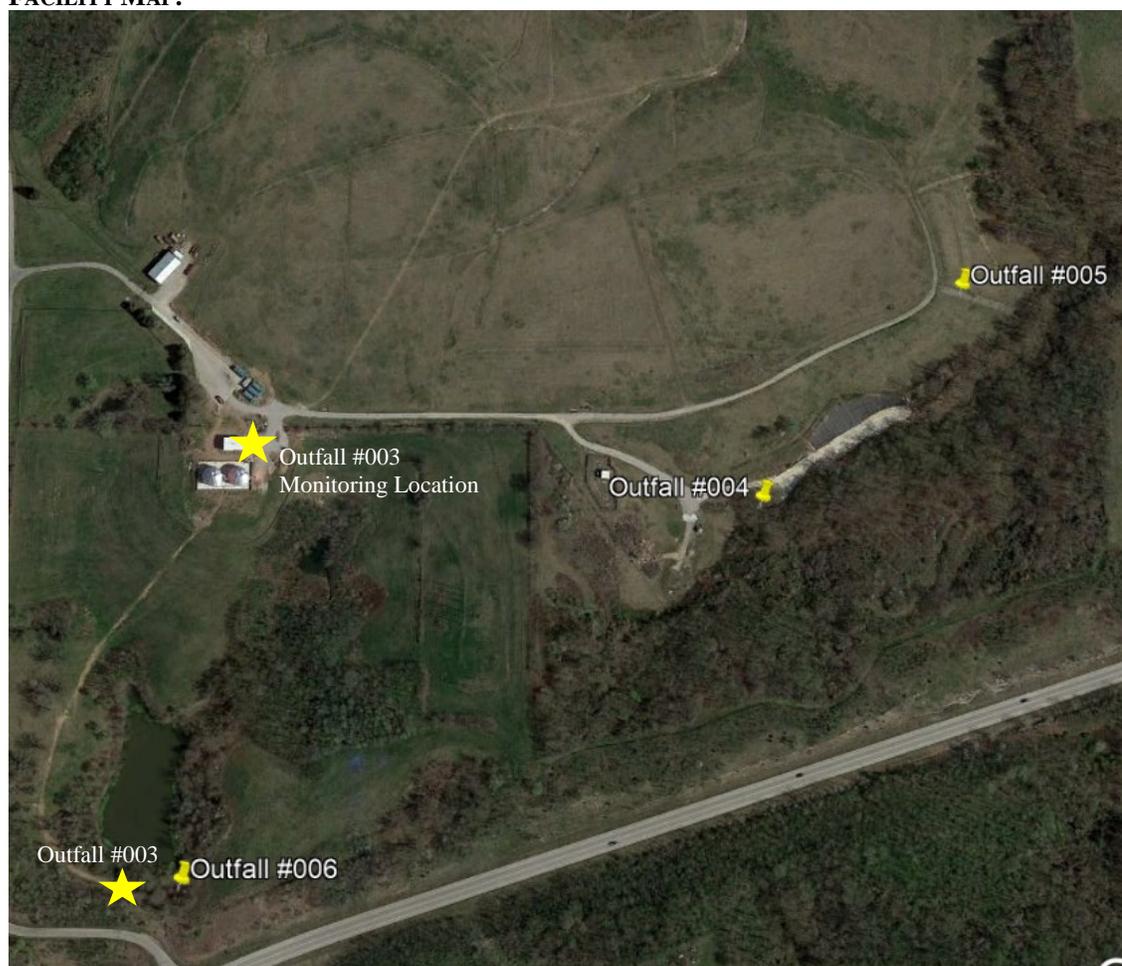
OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#003	0.2057 MGD	0.2592 MGD	advanced	treated groundwater, treated landfill leachate
#004	dependent on precipitation	n/a	BMPs	landfill stormwater
#005	dependent on precipitation	n/a	BMPs	landfill stormwater
#006	dependent on precipitation	n/a	BMPs	landfill stormwater

FACILITY PERFORMANCE HISTORY & COMMENTS:

The electronic discharge monitoring reports were reviewed for the last three years. No exceedances of permitted limits were found for currently permitted outfalls. The permit was modified in February 2019 to remove outfall #002 and replace it with more appropriate outfall locations (#004, #005, and #006). Outfall #001 was determined to have no industrial exposure and is therefore unmonitored. The previous outfall #002 received water from not only the permitted facility, but also surrounding agricultural land. Additionally, outfall #002 was located in such a way as to receive heavy sediment inputs from natural drainage features in the area. It was unsuitable for monitoring the industrial inputs of the landfill.

This permit contains a special condition which requires a report after four years of all the data collected by the facility, as well as an analysis of the technology. The permittee shall determine the treatment capabilities of the system and propose technology based limits which are achievable by the treatment systems on parameters found in Part F. of the permit. The report and proposed limits will be reviewed by the Department. After review, the Department will determine the applicability of the limits and possibly develop other limits if it is determined the report by the facility was incorrect or incomplete. Technology based limits will be placed in the next permit cycle for all metals and remaining parameters in Tables A-3 and A-4 after review by the Department.

FACILITY MAP:



PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY'S WATER QUALITY:

The receiving waterbody has no concurrent water quality data available. There is no relevant water quality data for receiving streams or first classified waterbodies.

303(D) LIST:

Section 303(d) of the federal Clean Water Act requires each state identify waters 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 impaired waters not addressed by normal water pollution control programs. <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>

- ✓ Applicable; Missouri River is listed on the 2012 Missouri 303(d) list for E. coli.
 - This facility is not considered a source of the above listed pollutant(s) or considered to contribute to the impairment. The facility does not discharge domestic waste.

TOTAL MAXIMUM DAILY LOAD (TMDL):

A TMDL is a calculation of the maximum amount of a given pollutant a water body can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan or TMDL may be developed. The TMDL shall include the WLA calculation. <http://dnr.mo.gov/env/wpp/tmdl/>

- ✓ Applicable; Missouri River is associated with the 2006 EPA approved TMDL for PCBs and Chlordane.
 - This facility is not considered to be a source of the above listed pollutant(s) or considered to contribute to the impairment. PCBs and Chlordane were not reported to be pollutants of concern to the permit writer.

UPSTREAM OR DOWNSTREAM IMPAIRMENTS:

The permit writer has reviewed upstream and downstream stream segments of this facility for impairments.

✓ The permit writer has noted no upstream or downstream impairments near this facility.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

Per Missouri’s Effluent Regulations [10 CSR 20-7.015(1)(B)], waters of the state are divided into seven categories. This facility is subject to effluent limitations derived on a site specific basis which are presented in each outfall’s effluent limitation table and further discussed in Part IV: Effluents Limits Determinations

✓ All Other Waters

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#003	Tributary to Missouri River	n/a	n/a	GEN	0.0 mi	103001010307 Dry Creek- Missouri River
	Missouri River	P	356	GEN, DWS, HHP, IND, IRR, LWV, SCR, WBC-B, WWH (ALP)	0.74 mi	
#004	Tributary to Missouri River	n/a	n/a	GEN	0.0 mi	
	08-20-13 MUDD V1.0	C	3960	GEN, HHP, IRR, LWV, SCR, WBC-B, WWH (ALP)	0.79 mi	
#005	Tributary to Missouri River	n/a	n/a	GEN	0.0 mi	
	08-20-13 MUDD V1.0	C	3960	GEN, HHP, IRR, LWV, SCR, WBC-B, WWH (ALP)	0.68 mi	
#006	Tributary to Missouri River	n/a	n/a	GEN	0.0 mi	
	08-20-13 MUDD V1.0	C	3960	GEN, HHP, IRR, LWV, SCR, WBC-B, WWH (ALP)	0.77 mi	

n/a not applicable

Classes are hydrologic classes as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetland. Losing streams are defined in 10 CSR 20-7.031(1)(O) and are designated on the Losing Stream dataset or determined by the Department to lose 30% or more of flow to the subsurface.

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 8-20-13 MUDD V1.0 or newer; data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. as 100K Extent Remaining Streams.

Per 10 CSR 20-7.031, the Department defines the Clean Water Commission’s water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream’s beneficial water uses are to be maintained in the receiving streams in accordance with [10 CSR 20-7.031(1)(C)]. Uses which may be found in the receiving streams table, above:

10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL; current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: **WWH** = Warm Water Habitat; **CLH** = Cool Water Habitat; **CDH** = Cold Water Habitat; **EAH** = Ephemeral Aquatic Habitat; **MAH** = Modified Aquatic Habitat; **LAH** = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-A2 for all habitat designations unless otherwise specified.

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

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

WBC-A = whole body contact recreation supporting swimming uses and has public access;

WBC-B = whole body contact recreation not supported in WBC-A;

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

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

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

IRR = irrigation for use on crops utilized for human or livestock consumption

LWW = Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection);

DWS = Drinking Water Supply

IND = industrial water supply

10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Tables A1-B3 currently does not have corresponding habitat use criteria for these defined uses): **WSA** = storm- and flood-water storage and attenuation; **WHP** = habitat for resident and migratory wildlife species; **WRC** = recreational, cultural, educational, scientific, and natural aesthetic values and uses; **WHC** = hydrologic cycle maintenance.

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

RECEIVING WATERBODY MONITORING REQUIREMENTS:

No receiving water monitoring requirements are recommended at this time.

MIXING CONSIDERATIONS:

For all outfalls, mixing zone and zone of initial dilution are not allowed per 10 CSR 20-7.031(5)(A)4.B.(I)(a) and (b), as the base stream flow does not provide dilution to the effluent.

PART III. RATIONALE AND DERIVATION OF 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)], and is an existing facility.

ANTIBACKSLIDING:

Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] 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.
- ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
 - The previous permit had a special condition which stated: “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.” The permit writer has determined this special condition was outside the scope of NPDES permitting and was removed.
 - The previous permit had a special condition which stated, “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.” 10 CSR 24-3.010 has been repealed, and the permit writer has determined this special condition was outside the scope of NPDES permitting and was removed.

ANTIDegradation REVIEW:

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

- ✓ Applicable; an antidegradation was completed on outfall #003 in 2012 for discharge of treated groundwater and leachate.

This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which must include an alternative analysis (AA) of the BMPs. The SWPPP must be developed, implemented, updated, and maintained at the facility. Failure to implement and maintain the chosen alternative, is a permit violation. The AA is a structured evaluation of BMPs to determine which are reasonable and cost effective. Analysis should include practices designed to be 1) non-degrading, 2) less degrading, or 3) degrading water quality. The chosen BMP will be the most reasonable and cost effective while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The analysis must demonstrate why “no discharge” or “no exposure” are not feasible alternatives at the facility. Existing facilities with established SWPPPs and BMPs need not conduct an additional alternatives analysis unless new BMPs are established to address BMP failures or benchmark exceedances. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.015(9)(A)5 and 7.031(3). For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for the facility, through the AA performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

- ✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BEST MANAGEMENT PRACTICES:

Minimum site-wide best management practices are established in this permit to assure all permittees are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these best management practices are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum best management practices are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state, therefore pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "...any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters found in 40 CFR 401.15. The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

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.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:

Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.

- ✓ Not applicable; this facility discharges domestic wastewater to a subsurface tank with flows of 3,000 gallons per day or less as calculated in accordance with 19 CSR 20-3.060(1)(E) and tables 2A and 2B. The domestic wastewater system is jurisdiction of the Missouri Department of Health and Senior Services or Local Public Health Agency. This permit does not authorize any wastewater for introduction into the sub-surface system.

Sewage sludge is solid, semi-solid, 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 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. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.

Additional information: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74> (WQ422 through WQ449).

- ✓ Not applicable; domestic wastewater at this site falls under the jurisdiction of DHSS or local public health agency.

EFFLUENT LIMITATIONS:

Effluent limitations derived and established for this permit are based on current operations of the facility and applied per 10 CSR 20-7.015(9)(A). Any flow through the outfall is considered a discharge and must be sampled and reported as provided in the permit. Future permit action due to facility modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required per 40 CFR 122.45(d)(1) for continuous discharges (not from a POTW).

EFFLUENT LIMITATION GUIDELINE:

Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

- ✓ The facility has an associated Effluent Limit Guideline (ELG) at 40 CFR 445 applicable to the wastewater discharge at this site, and is applied under 40 CFR 125.3(a). Should Reasonable Potential be established for any particular parameter, and water-quality derived effluent limits are more protective of the receiving water's quality, the WQS will be used as the limiting factor in accordance with 40 CFR 122.44(d) and 10 CSR 20-7.015(9)(A).

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is not transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue

submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

To assist the facility in entering data into the eDMR system, the permit describes limit sets in each table in Part A of the permit. The data entry personnel should use these identifiers to assure data entry is being completed appropriately.

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

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, §644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state it shall be unlawful for any person to cause or allow 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.

- ✓ Applicable; this permit contains effluent limitations for flow rate; the permit writer has determined this facility has reasonable potential to cause hydrologic changes which would impair the natural biological community [10 CSR 20-7.031(4)(H)] therefore limits were applied. See Part IV.
- ✓ Applicable; this permit contains effluent limitations to protect for toxicity in accordance with 10 CSR 20-7.031(4)(D) and (G); see Part IV for specific pollutant discussion.

GROUNDWATER MONITORING:

Groundwater is a water of the state according to 10 CSR 20-2.010(82), and is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6) and must be protected accordingly.

- ✓ This facility is not required to monitor groundwater for the water protection program. The groundwater is monitored and reported to the Waste Management Program.

NO-DISCHARGE LAND APPLICATION:

Land application of wastewater or sludge shall comply with the all applicable no-discharge requirements listed in 10 CSR 20-6.015 and all facility operations and maintenance requirements listed in 10 CSR 20-8.020(15). These requirements ensure appropriate operation of the no-discharge land application systems and prevent unauthorized and illicit discharges to waters of the state. Land applications by a contract hauler on fields the permittee has a spreading agreement on are not required to be in this permit. A spreading agreement does not constitute the field being rented or leased by the permittee as they do not have any control over management of the field.

- ✓ Not applicable; this permit does not authorize operation of a surface no-discharge land application system to treat wastewater or sludge. The facility is not authorized to land apply waste from the subsurface on-site system.

OIL/WATER SEPARATORS:

Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits or may be regulated as a petroleum tank.

- ✓ Applicable; the OWS operated as part of the wastewater treatment system on this site is authorized by this permit.

REASONABLE POTENTIAL (RP):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zones. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). Permit writers may use mathematical reasonable potential analysis (RPA) using the Technical Support Document for Water Quality Based Toxics Control (TSD) methods (EPA/505/2-90-001) as found in Section 3.3.2, or may also use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD.

- ✓ Applicable; an RPA was conducted on appropriate parameters and was conducted as per (TSD Section 3.3.2). A more detailed version including calculations of this RPA is available upon request. See Wasteload Allocations (WLA) for Limits in this section. These limits were not assigned, as technology limitations were more protective.

Parameter:	CMC Acute	CCC Chronic	Listing	Daily Max	Monthly Average	n#	CV	n Max	MF	RWC Acute	RWC Chronic	RP
Iron, TR	n/a	1000	AQL	1642.67	818.80	5	0.600	716	4.19	3000.94	3000.94	Yes

Units are (µg/L) unless otherwise noted.

- n/a Not Applicable
- n number of samples; if the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.
- CV Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the mean of the same sample set.
- CCC continuous chronic concentration
- CMC continuous maximum concentration
- RWC Receiving Water Concentration: concentration of a toxicant or the parameter in the receiving water after mixing (if applicable)
- MF Multiplying Factor; 99% confidence level and 99% probability basis
- RP Reasonable Potential: an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

- ✓ Applicable; the permit writer conducted an RPD on applicable parameters within the permit. See Part IV: Effluent Limits Determinations below.
- ✓ A mathematical RPA was not conducted for outfalls #004-#006. This permit establishes benchmarks for stormwater at these outfalls. The Department has determined stormwater is not a continuous discharge and is therefore not necessarily dependent on mathematical RPAs. However, the permit writer completed an RPD, a reasonable potential determination, using best professional judgment for all of the appropriate parameters in this permit. An RPD consists of reviewing application data and/or discharge monitoring data for the last five years and comparing those data to narrative or numeric water quality criteria.
- ✓ Permit writers use the Department's permit writer's manual (<http://dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm>), the EPA's permit writer's manual (<https://www.epa.gov/npdes/npdes-permit-writers-manual>), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, stream flows and uses, and all applicable site specific information and data gathered by the permittee through discharge monitoring reports and renewal (or new) application sampling. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs. Part IV provides specific decisions related to this permit.
- ✓ The permit writer reviewed application materials, DMR data, past inspections, and other site specific factors to evaluate general and narrative water quality reasonable potential for this facility. Per the permit writer's best professional judgment, based on available data and full and accurate disclosure on application materials, this facility demonstrates reasonable potential for excursions from the general or narrative water quality criteria. See Part IV: Effluent Limit Determinations for specific parameter RP.

SAMPLING FREQUENCY JUSTIFICATION:

Sampling and reporting frequency was generally retained from previous permit. 40 CFR 122.45(d)(1) indicates all continuous discharges shall be permitted with daily maximum and monthly average limits. Minimum sampling frequency for all parameters is annually per 40 CFR 122.44(i)(2).

Sampling frequency for stormwater-only outfalls is typically quarterly even though BMP inspection occurs monthly. The facility may sample more frequently if additional data is required to determine if best management operations and technology are performing as expected.

SAMPLING TYPE JUSTIFICATION:

Sampling type was continued from the previous permit. The sampling types are representative of the discharges, and are protective of water quality. Discharges with altering effluent should have composite sampling; discharges with uniform effluent can have grab samples. Grab samples are usually appropriate for stormwater. Parameters which must have grab sampling are: pH, ammonia, *E. coli*, total residual chlorine, free available chlorine, hexavalent chromium, dissolved oxygen, total phosphorus, volatile organic compounds, and others.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, 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. SOC's are allowed under 40 CFR 122.47 providing certain conditions are met. A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR § 125.3.

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

In order to provide guidance in developing SOCs, and to attain a greater level of consistency, the Department issued a policy on development of SOCs on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.

- ✓ Applicable; the time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(12)]. The facility has been given a schedule of compliance to perform quarterly WET tests for 2 years, followed by WET testing frequency reducing to annually. See permit Sections A and B for compliance dates. A schedule of compliance was not applied for the new water quality based limitations on iron, as DMR data indicated they are achievable using current technology.

SPILLS, OVERFLOWS, AND OTHER UNAUTHORIZED DISCHARGE REPORTING:

Per 260.505 RSMo, 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. <http://dnr.mo.gov/env/esp/spillbill.htm>

Any other spills, overflows, or unauthorized discharges reaching waters of the state must be reported to the regional office during normal business hours, or after normal business hours, to the Department's 24 hour Environmental Emergency Response spill line at 573-634-2436.

SLUDGE – INDUSTRIAL:

Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process or non-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 any material derived from industrial sludge.

- ✓ Applicable; sludge is removed by contract hauler. The permitted management strategy must be followed, see permit under FACILITY DESCRIPTION. If the permitted management strategy cannot be followed, the permittee must obtain a permit modification.

STANDARD CONDITIONS:

The standard conditions Part I attached to this permit incorporate all sections of 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the permittee to ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act.

STORMWATER PERMITTING: LIMITATIONS AND BENCHMARKS:

Because of the fleeting nature of stormwater discharges, the Department, under the direction of EPA guidance, has determined monthly averages are capricious measures of stormwater discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) Section 3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater-only outfalls will generally only contain a maximum daily limit (MDL), benchmark, or monitoring requirement as dictated by site specific conditions, the BMPs in place, past performance of the facility, and the receiving water's current quality.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute Water Quality Standards (WQSs) are based on one hour of exposure, and must be protected at all times. Therefore, industrial stormwater facilities with toxic contaminants present in the stormwater may have the potential to cause a violation of acute WQSs if toxic contaminants occur in sufficient amounts. In this instance, the permit writer may apply daily maximum limitations.

Conversely, it is unlikely for rainfall to cause a discharge for four continuous days from a facility; if this does occur however, the receiving stream will also likely sustain a significant amount of flow providing dilution. Most chronic WQSs are based on a four-day exposure with some exceptions. Under this scenario, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

A standard mass-balance equation cannot be calculated for stormwater because stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day or storm event. The amount of stormwater discharged from the facility will vary based on current and previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, area of surfaces with reduced permeability (houses, parking

lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability may increase the stream flow dramatically over a short period of time (flash).

Numeric benchmark values are based on site specific requirements taking in to account a number of factors but cannot be applied to any process water discharges. First, the technology in place at the site to control pollutant discharges in stormwater is evaluated. The permit writer also evaluates other similar permits for similar activities. A review of the guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) may also occur. Because precipitation events are sudden and momentary, benchmarks based on state or federal standards or recommendations use the Criteria Maximum Concentration (CMC) value, or acute standard may also be used. The CMC is the estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The CMC for aquatic life is intended to be protective of the vast majority of the aquatic communities in the United States. If a facility has not disclosed BMPs applicable to the pollutants for the site, the permittee may not be eligible for benchmarks.

40 CFR 122.44(b)(1) requires the permit implement the most stringent limitations for each discharge, including industrially exposed stormwater; and 40 CFR 122.44(d)(1)(i) and (iii) requires the permit to include water-quality based effluent limitations where reasonable potential has been found. However, because of the non-continuous nature of stormwater discharges, staff are unable to perform statistical Reasonable Potential Analysis (RPA) under most stormwater discharge scenarios. Reasonable potential determinations (RPDs; see REASONABLE POTENTIAL above) using best professional judgment are performed.

Benchmarks require the facility to monitor, and if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the conditions of the permit.

BMP inspections typically occur more frequently than sampling. Sampling frequencies are based on the facility's ability to comply with the benchmarks and the requirements of the permit. Inspections should occur after large rain events and any other time an issue is noted; sampling after a benchmark exceedance may need to occur to show the corrective active taken was meaningful.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.

✓ Applicable, this facility has stormwater-only outfalls where benchmarks or limitations were deemed appropriate contaminant measures.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared by the permittee if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures,

proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

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

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

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

✓ Applicable; a SWPPP shall be developed and implemented for this facility.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, section A, number 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 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 the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations 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 quantifies the pollutant below the level of the applicable water quality criterion 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 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 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A permittee is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive. 40 CFR 136 lists the approved methods accepted by the Department. Tables A1-B3 at 10 CSR 20-7.031 shows water quality standards.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In

accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: <http://dnr.mo.gov/forms/780-1774-f.pdf>

✓ Not applicable; the permittee has not submitted materials indicating the facility will be performing UIC at this site.

VARIANCE:

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 permit is not drafted under premise of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the WLA is the amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. If one limit does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A). Total Maximum Daily Loads, if required for this facility, were also reviewed.

✓ Applicable; wasteload allocations for toxic parameters were calculated using water quality criteria or water quality model results and by applying the dilution equation below; WLAs are calculated using the *Technical Support Document For Water Quality-Based Toxics Control* or TSD EPA/505/2-90-001; 3/1991.

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

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

- ✓ Acute wasteload allocations designated as daily maximum limits (MDL) 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).
- ✓ Chronic wasteload allocations designated as monthly average limits (AML) 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).
- ✓ Number of Samples “n”: 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 assumption which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended the actual planned frequency of monitoring 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”. For total ammonia as nitrogen, “n = 30” is used.

WASTELOAD ALLOCATION (WLA) MODELING:

Permittees may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

✓ Not applicable; a WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARD REVISION:

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

✓ This operating permit does not contain requirements for a permit limit based on a water quality standard which has changed twenty-five percent or more since the previous operating permit.

PART IV. EFFLUENT LIMITS DETERMINATIONS

OUTFALL #003 – TREATED GROUNDWATER AND LEACHATE OUTFALL

The EPA has developed effluent limitation guidelines for wastewater discharges associated with the operation and maintenance of landfills regulated under RCRA Subtitle C, hazardous waste landfills. The wastewater flows which are covered by this rule include leachate, gas collection condensate, drained free liquids, laboratory-derived wastewater, contaminated stormwater, and contact wash water from truck exteriors and surface areas which have come into direct contact with solid waste at the landfill facility. Contaminated groundwater that is treated and discharged is excluded from this guideline. Outfall #003 is largely designed to treat and discharge contaminated groundwater; however, some of the treated water comes from interceptor trenches which contain leachate. Due to the leachate being combined with the contaminated groundwater, discharge of this water is required by 40 CFR Part 445.11 to be limited by the ELG. These parameters are not assessed for more restrictive technology limits in this permit, as an ELG already regulates them.

40 CFR Part 445.11 ELG Limitations		
Regulated Parameter	Daily Maximum (mg/L)	Monthly Average (mg/L)
BOD ₅	220	56
TSS	88	27
Ammonia as N	10	4.9
α – Terpineol	0.042	0.019
Aniline	0.024	0.015
Benzoic Acid	0.119	0.073
Naphthalene	0.059	0.022
p-Cresol	0.024	0.015
Phenol	0.048	0.029
Pyridine	0.072	0.025
Arsenic	1.1	0.54
Chromium	1.1	0.46
Zinc	0.535	0.296
pH	6.0-9.0 SU	-

EFFLUENT LIMITATIONS TABLE:

PARAMETERS OUTFALL #003	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW, TOTAL	MGD	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	24 HR. TOT
FLOW, MONTHLY TOTAL	gallo ns	259,200	-	SAME	TOTAL MONTHLY	ONCE/MONTH	CALCULATED
FLOW RATE	gpd	180	*	SAME	ONCE/BATCH ††	ONCE/MONTH	MEASURED
CONVENTIONAL							
BOD ₅	mg/L	15	10	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
COD	mg/L	*	*	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
pH *	SU	6.5-9.0	6.5-9.0	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	20	15	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
ELG							
A-TERPINEOL	µg/L	42	19	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
ANILINE	µg/L	24	15	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
BENZOIC ACID	µg/L	119	73	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
NAPHTHALENE	µg/L	59	22	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
P-CRESOL	µg/L	24	15	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
PHENOL	µg/L	48	29	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
PYRIDINE	µg/L	72	25	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
ELG NUTRIENTS							
AMMONIA AS N	µg/L	10	4.9	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
ELG METALS							
ARSENIC, TR	µg/L	1100	540	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
CHROMIUM, TR	µg/L	1100	460	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB

PARAMETERS OUTFALL #003	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
ZINC, TR	µg/L	535	296	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
METALS (PER BATCH SAMPLING)							
TOTAL HARDNESS AS CaCO ₃	mg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
ALUMINUM, TR	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
CADMIUM, TR	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
CHROMIUM (III), TR	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
CHROMIUM (VI), DISSOLVED	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
IRON, TR	µg/L	1643	-	*/*	ONCE/BATCH ††	ONCE/MONTH	GRAB
MANGANESE, TR	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
NICKEL, TR	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
OTHER (PER BATCH SAMPLING)							
2-METHYLNAPHTHALENE	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
2,4,5-TRICHLOROPHENOL	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
A-BHC	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
CHLORIDE	mg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
CHLORIDE + SULFATE	mg/L	*	-	NEW	ONCE/BATCH ††	ONCE/MONTH	GRAB
CIS-1,2-DICHLOROETHYLENE	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
DISULFOTON	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
METHYL-4-CHLORO-PHENOXYPROPIONIC ACID (MCP P)	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
SULFATE	mg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
SULFIDE	mg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
TOLUENE	µg/L	*	-	SAME	ONCE/BATCH ††	ONCE/MONTH	GRAB
METALS (BIANNUAL)							
ANTIMONY, TR	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
BARIUM, TR	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
BORON, TR	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
VANADIUM, TR	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
NUTRIENTS (BIANNUAL)							
NITRATE AS N	mg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
OTHER (BIANNUAL)							
O,O,O-TRIETHYL PHOSPHORTHIOATE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,1,1-TRICHLOROETHANE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHANE (4,4-DDD)	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,1-DICHLOROETHANE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,1-DICHLOROETHENE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,2,4-TRICHLOROBENZENE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,2,4,5-TETRACHLOROBENZENE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,2-DICHLOROETHANE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,2-DICHLOROPROPANE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
1,4-DIOXANE	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T)	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
2,4,6-TRICHLOROPHENOL	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB
2,4-DICHLOROPHENOL	µg/L	*	-	SAME	TWICE/YEAR †	TWICE/YEAR	GRAB

PARAMETERS OUTFALL #003	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
2,4-DICHLOROPHOXYACETIC ACID (2,4-D)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
2,6-DICHLOROPHENOL	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
2-CHLOROPHENOL	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
2-METHYLPHENOL (o-CRESOL)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
4-CHLORO-3-METHYLPHENOL	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
4-METHYL-2-PENTANONE (MIBK)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
ACETONE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
BENZENE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
BENZYL ALCOHOL	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
CARBON DISULFIDE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
CHLOROBENZENE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
CHLOROETHANE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
CHLOROFORM	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
DEMETON	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
DICHLORODIPHENYLTRICHLOROETHANE (4,4-DDT)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
DIETHYL PHTHALATE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
ETHYLBENZENE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
FLUORIDE	mg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
MERPHOS	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
METHYLENE CHLORIDE (DCM)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
NALED	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
PENTACHLOROBENZENE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
PHORATE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
RONNEL	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
SILVEX (2,4,5-TP)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
SODIUM, TOTAL AS NA	mg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
TETRACHLOROETHYLENE (PERC)	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
TRANS-1,2-DICHLOROETHENE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
TRICHLOROETHENE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
TRICHLOROFLUORMETHANE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
VINYL CHLORIDE	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
XYLENES, TOTAL	µg/L	*	-	SAME	TWICE/YEAR ‡	TWICE/YEAR	GRAB
NUTRIENTS (QUARTERLY)							
NITROGEN, TOTAL (TN)	mg/L	*	-	SAME	QUARTERLY	QUARTERLY	GRAB
NITROGEN, TOTAL KJELDAHL (TKN)	mg/L	*	-	NEW	QUARTERLY	QUARTERLY	GRAB
NITRATE PLUS NITRITE	mg/L	*	-	NEW	QUARTERLY	QUARTERLY	GRAB
PHOSPHORUS, TOTAL (TP)	mg/L	*	-	SAME	QUARTERLY	QUARTERLY	GRAB
WHOLE EFFLUENT TOXICITY							
WET TEST - ACUTE	TUa	*	-	SAME	SEE PERMIT	SEE PERMIT	GRAB

Notes:

* monitoring and reporting requirement only

†† See note †† in permit, page 10, Outfall #003 Controlled Discharges.

‡ report the minimum and maximum pH values; pH is not to be averaged

‡ These parameters shall be sampled twice per year, at least three months apart. See note ‡ in permit for information.

TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

Per the Antidegradation review, numeric effluent limits will be issued for the conventional parameters 5-Day Biochemical Oxygen Demand (BOD₅), total suspended solids (TSS) and pH. Limits will also be issued for parameters found in the ELG located at 40 CFR 445.14. Numeric limits are also total recoverable iron based on an RPA performed by the permit writer on available data for outfall #003, which indicated reasonable potential to exceed water quality standards for this pollutant.

Two sets of monitoring requirements are in place for the facility. The first set of requirements includes the routine measurement of two groups of parameters, both of which will be monitored before every batch discharge. The first group consists of 12 detected parameters with acute criteria identified in 10 CSR 20-7.031 (Table A or B) or effluent limit guidelines (ELGs) in 40 CFR 445.14 (new source performance standards for hazardous waste landfills). The second group includes 10 parameters which, in the best professional judgment of Geosyntec's design engineers, are appropriate **surrogates** for evaluating treatment effectiveness for the various classes of pollutants expected to be in the effluent.

The second set of requirements includes monitoring for the entire suite of parameters (76 constituents) which were measured at detectable levels in 2011 and 2012. These parameters will be measured bi-annually. Any of these parameters may be promoted to additional monitoring or added to the list of POCs if data indicates this is appropriate.

PHYSICAL:

Flow, Batch Total

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. The facility will report the total flow in millions of gallons per day (MGD), monthly monitoring continued from previous permit.

Flow, Monthly Total

The facility is limited to a maximum of no more than 259,200 gallons total discharge from outfall #003. The total flow of each batch discharge for the month will be added together for the total amount of monthly flow. This parameter will be found in Limit Set C for electronic reporting (eDMR) purposes. Flow reported over the limited rate will require a reassessment of the antidegradation review for this outfall at renewal.

Flow Rate

Flow rate is limited to 180 gpm, continued from the previous permit. This is set to protect the tributary and 2nd receiving water body from scouring and other physical or hydrological changes [10 CSR 20-7.031(4)].

CONVENTIONAL:

Biochemical Oxygen Demand - 5 Day (BOD₅)

Daily maximum limit of 15 mg/L, with a monthly average limit of 10 mg/L, continued from the previous permit. These are technology based limits as identified in the Antidegradation Analysis (See appendix A).

Chemical Oxygen Demand (COD)

Monitoring only, continued from the previous permit. COD is a pollutant of concern in the discharge, as the influent of the treatment system contains landfill leachate.

pH

6.5 to 9.0 SU – instantaneous grab sample, continued from the previous permit. These limits are applied per the antidegradation analysis performed in 2012.

Total Suspended Solids (TSS)

Daily maximum limit of 20 mg/L with a monthly average limit of 15 mg/L. These are technology based limits as identified in the Antidegradation Analysis (see appendix A).

ELG:

α-Terpineol, Aniline, Benzoic Acid, Naphthalene, p-Cresol, Phenol

Technology based limits added as per 40 CFR part 445.14. The effluent treated at this site is considered leachate and the technology based ELG is therefore applicable regardless of reasonable potential to exceed water quality standards.

ELG NUTRIENTS:

Ammonia as N

Technology based limits added as per 40 CFR part 445.14. The effluent treated at this site is considered leachate and the technology based ELG is therefore applicable. The permit writer determined no reasonable potential for this parameter to exceed water quality standards, therefore the technology limits are applied.

ELG METALS:

Arsenic, Total Recoverable; Chromium, Total Recoverable; Zinc, Total Recoverable

Technology based limits added as per 40 CFR part 445.14. The effluent treated at this site is considered leachate and the technology based ELG is therefore applicable. The permit writer did not determine reasonable potential for this parameter to exceed water quality standards, therefore the technology limits are applied.

METALS:

Total Hardness as CaCO₃

Monitoring only, continued from previous permit. Hardness monitoring is used to determine site specific hardness values as the receiving stream is effluent dominated. The 50th percentile of the hardness values was 356 mg/L.

Aluminum, Total Recoverable; Cadmium, Total Recoverable; Chromium (III), Total Recoverable; Chromium (VI), Dissolved; Manganese, Total Recoverable; Nickel, Total Recoverable

Monitoring only, continued from the previous permit. There is not enough data on these discharges to develop technology based limits at this time. In the next permit cycle, these limits will be developed. See Permit section F. Technology Based Limitations for Pollutants – Report. The laboratory used by the permittee has a reporting limit of 2.0 µg/L for chromium III and VI; however, the permittee reported 5.0 µg/L for both chromium parameters, even though the laboratory sheets reported <2.0 µg/L as the value for those parameters. The permittee should ensure the correct values are reported in eDMR to the Department.

Iron, Total Recoverable

Daily maximum limit of 1,643 µg/L. This is a water quality based limitation. An RPA performed on the data submitted by the permittee showed reasonable potential to exceed water quality standards; therefore, a water quality based limit was applied. The previous permit required monitoring only. No schedule of compliance is required, as the data indicates this limitation is achievable.

Chronic AQL: 1000 µg/L

Chronic WLA: $Ce = ((0.401 \text{ cfsDF} + 0 \text{ cfsMZ}) * 1000 - (0 \text{ cfsMZ} * 0 \text{ background})) / 0.401 \text{ cfsDF} = 1000$

LTAc: $WLAc * LTAc \text{ multiplier} = 1000 * 0.527 = 527.433$ [CV: 0.6, 99th %ile]

Daily Maximum: $MDL = LTA * MDL \text{ multiplier} = 527.433 * 3.114 = 1642.7 \mu\text{g/L}$ [CV: 0.6, 99th %ile]

OTHER, ONCE PER BATCH SAMPLING:

2-Methylnaphthalene, 2,4,5-Trichlorophenol, Alpha-1,2,3,4,5,6-Hexachlorocyclohexane (α -BHC), Cis-1,2-Dichloroethane, Disulfoton, Methylchlorophenoxypropionic Acid (MCPP); Toluene

Monitoring only, continued from the previous permit. In the fourth (4th) year of the permit, the permittee shall develop and submit a report on the development of technology based limitations for these parameters. The report shall include proposals for technology based limits for the pollutants contained in Table A-2 and A-3, as identified in Part F. of the permit, TECHNOLOGY BASED LIMITATIONS FOR POLLUTANTS - REPORT.

Chloride; Chloride + Sulfate; Sulfate; Sulfide

Monitoring only. No specific technologies are installed at the site to treat for these pollutants, therefore no technology limitations assessment was done at this time. After further data is collected, an assessment may be done based on performance data. No reasonable potential was found for these parameters to exceed the water quality standards at this time, therefore monitoring only is continued. Sampling will occur at each batch prior to release. Chloride + sulfate is a new reporting requirement in this renewal. The permittee shall total the sulfate and chloride for the monitoring period and report them. This is to determine compliance with the chloride + sulfate water quality standard of 1,000 mg/L. This does not require any additional monitoring on the part of the permittee.

TWICE PER YEAR SAMPLING:

Antimony, Total Recoverable; Barium, Total Recoverable; Boron, Total Recoverable; Vanadium, Total Recoverable; Nitrate as N; Fluoride; Sodium, Total as Na

Monitoring only. Sampling will occur at twice yearly. Not enough data points are available to determine reasonable potential for water quality, therefore monitoring for these parameters will continue. In the fourth (4th) year of the permit, the permittee shall develop and submit a report on the development of technology based limitations for these parameters. The report shall include proposals for technology based limits for the pollutants contained in Table A-2 and A-3, as identified in Part F. of the permit, TECHNOLOGY BASED LIMITATIONS FOR POLLUTANTS - REPORT.

o,o,o-Triethyl Phosphorothioate; 1,1,1-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2,4,5-Tetrachlorobenzene; 1,2,4-Trichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,4-Dioxane; 2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T); 2,4,6-Trichlorophenol; 2,4-Dichlorophenol; 2,4-Dichlorophenoxyacetic Acid (2,4-D); 2,6-Dichlorophenol; 2-Chlorophenol; 4-Chloro-3-methylphenol; 4-Methyl-2-pentanone (MIBK); Acetone; Benzene; Benzyl Alcohol; Carbon Disulfide; Chlorobenzene; Chloroethane; Chloroform; Demeton; Dichlorodiphenyltrichloroethane (4,4-DDT); Diethyl Phthalate; Ethylbenzene; Merphos; Methylene Chloride (DCM); Naled; Pentachlorobenzene; Phorate; Ronnel; Silvex; Tetrachloroethylene (PERC); Trans-1,2-Dichloroethene; Trichloroethene; Trichlorofluoromethane; Vinyl Chloride; Xylenes, Total

Monitoring only. Sampling will occur twice yearly. Not enough data points are available to determine reasonable potential for water quality, therefore monitoring for these parameters will continue. In the fourth (4th) year of the permit, the permittee shall develop and submit a report on the development of technology based limitations for these parameters. The report shall include proposals for technology based limits for the pollutants contained in Table A-2 and A-3, as identified in Part F. of the permit, TECHNOLOGY BASED LIMITATIONS FOR POLLUTANTS - REPORT.

α BHC, also known as Alpha-1,2,3,4,5,6-hexachlorocyclohexane has water quality standards below the accepted minimum quantification level (ML). The Department has determined the appropriate analytical method for this parameter is EPA Part 136 approved Method 608. The permittee will conduct analyses in accordance with this method, or equivalent.

1,2,4,5-Tetrachlorobenzene has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 8270, preparation method EPA 3510. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

4,4-DDT has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 608. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

Pentachlorobenzene has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 8270, preparation method EPA 3510. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

1,1-Dichloro-2,2-Bis(p-chlorophenyl)Ethane (4,4-DDD) has water quality standards below the accepted minimum quantification level (ML). The permittee's laboratory uses EPA method 608. The Department has determined this is an acceptable test method for this parameter. The permittee will conduct analyses in accordance with this method, or equivalent.

NUTRIENTS:

Nitrogen, Total N (TN)

Nitrogen is expected to be present in this outfall's discharge therefore the permit writer is requesting the facility also supply the total nitrogen in the discharge at the same frequency as the other nutrient parameters.

Nitrogen, Total Kjeldahl (TKN)

Quarterly monitoring of total Kjeldahl nitrogen is required per 10 CSR 20-7.015(9)(D)8.A as this facility's design flow falls under 1 MGD but above 0.1 MGD.

Nitrate plus Nitrite

Nitrogen is expected to be present in this outfall's discharge therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Quarterly monitoring of nitrate plus nitrite required per 10 CSR 20-7.015(9)(D)8.A as this facility's design flow falls under 1 MGD but above 0.1 MGD.

Phosphorous, Total P (TP)

Phosphorus is expected to be present in this outfall's discharge therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Quarterly monitoring of phosphorus is required per 10 CSR 20-7.015(9)(D)8.A as this facility's design flow falls under 1 MGD but above 0.1 MGD.

WHOLE EFFLUENT TOXICITY (WET) TEST:

Monitoring is required to determine if reasonable potential exists for the discharge to cause toxicity within the receiving stream. A WET test is a quantifiable method to determine discharges from the facility cause toxicity to aquatic life by itself, in combination with, or through synergistic responses, when mixed with receiving stream water.

Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and the Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the Department may require other terms and conditions it deems necessary to assure compliance with the CWA and related regulations of the Missouri Clean Water Commission. The following Missouri Clean Water Laws (MCWL) apply: §644.051.3. requires the Department to set permit conditions complying with the MCWL and CWA; §644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits); and §644.051.5. is the basic authority to require testing conditions. WET tests are required by all facilities meeting the following criteria:

- ✓ Facility handles large quantities of toxic substances, or substances toxic in large amounts
- ✓ Facility has Water Quality-Based Effluent Limitations for toxic substances (other than NH₃)
- ✓ Facility is an industrial facility with a Design Flow \geq 22,500 GPD

WET, Acute

Monitoring only, continued from the previous permit. The permittee shall comply with the reporting requirements in the permit. (See page 4 of permit, note †, for more information.)

The standard Allowable Effluent Concentration (AEC) for facilities discharging to unclassified, Class C, Class P (with default mixing considerations), or lakes [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] is 100%. The standard dilution series for facilities discharging to waterbodies with no mixing considerations is 100%, 50%, 25%, 12.5%, & 6.25%.

EFFLUENT LIMITATIONS TABLE, OUTFALLS #004, #005, #006:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH- MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR. ESTIMATE
PRECIPITATION	inches	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR. TOT
CONVENTIONAL							
COD	mg/L	**	120	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
OIL & GREASE	mg/L	**	10	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
pH $\frac{\text{H}}{\text{H}}$	SU	6.5-9.0	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SETTLABLE SOLIDS	mL/L/hr	**	1.5	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TSS	mg/L	**	100	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
METALS							
BERYLLIUM, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
CADMIUM, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHROMIUM (VI), DISSOLVED	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
COPPER, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
IRON, TR	µg/L	**	4,000	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
MANGANESE, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SELENIUM, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SILVER, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
ZINC, TR	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
METALS (ANNUAL)							
ARSENIC, TR	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
BARIUM, TR	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
LEAD, TR	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
MERCURY, TR	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
THALLIUM, TR	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER							
BENZENE	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE	mg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE +SULFATE	mg/L	**	1000	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER (QUARTERLY) OUTFALL #004 ONLY							
1,1-DICHLOROETHYLENE (1,1-DCE)	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
DISULFOTON	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
LINDANE (γ-BHC)	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
O,O,O-TRIETHYL PHOSPHOROTHIOATE	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TETRACHLOROETHYLENE (PERC)	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TRICHLOROETHYLENE (TCE)	µg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER (ANNUAL) OUTFALL #004 ONLY							
1,1,1-TRICHLOROETHANE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH- MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
1,2-CIS-DICHLOROETHYLENE (1,2-DCE)	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
2,4,5-TRICHLOROPHENOL (2,4,5-TP)	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
BENZOIC ACID	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
CHLOROETHANE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
CHLOROFORM	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
DEMETON (SYSTOX)	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
DIETHYL PHTHALATE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
ETHYLBENZENE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
MCPP (MECOPROP)	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
NALED (DIBROM)	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
P-CRESOL	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
PHENOL	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
PHORATE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
α-TERPINEOL	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
TOLUENE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
XYLENE	µg/L	*	-	SAME	ONCE/YEAR	ONCE/YEAR	GRAB

- * monitoring and reporting requirement only
- ** monitoring with associated benchmark
- ⌘ report the minimum and maximum pH values; pH is not to be averaged
- TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the estimated volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain an estimated effluent flow, then it is the responsibility of the permittee to inform the Department. The facility will report the total estimated flow in millions of gallons per day (MGD), quarterly monitoring continued from previous permit.

Precipitation

Monitoring only requirement; measuring the amount of precipitation [(10 CSR 20-6.200(2)(C)1.E(VI)] 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 any specific control measures be employed to ensure protection of water quality. The facility will provide the 24 hour accumulation value of precipitation from the day of sampling the other parameters.

CONVENTIONAL:

Chemical Oxygen Demand (COD)

Monitoring with 120 mg/L daily maximum benchmark is continued using the permit writer’s best professional judgment. COD is a pollutant of concern associated with hazardous waste landfills as identified in the Federal MSGP, 8.K.5, Table 8.K-1, Subsector K1. COD is the measurement of water’s capacity to consume oxygen during decomposition of organic matter and the oxidation of inorganic chemicals. There is no numeric 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 may indicate materials/chemicals coming into contact with stormwater causing an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. The benchmark value falls within the range of values implemented in other permits having similar industrial activities and is achievable through proper BMP controls.

Oil & Grease

Monitoring with a daily maximum benchmark of 10 mg/L, continued from the previous permit. Oil and grease is considered a conventional pollutant. Oil and grease is a comprehensive test which measures for gasoline, diesel, crude oil, creosote, kerosene, heating oils, heavy fuel oils, lubricating oils, waxes, and some asphalt and pitch. The test can also detect some volatile organics such as benzene, toluene, ethylbenzene, or toluene, but these constituents are often lost during testing due to their boiling points. It is recommended to perform separate testing for these constituents if they are a known pollutant of concern at the site, i.e. aquatic life toxicity or human health is a concern. Results do not allow for separation of specific pollutants within the test, they are reported, totaled, as “oil and grease”. Per 10 CSR 20-7.031 Table A1: *Criteria for Designated Uses*; 10 mg/L is the standard for protection of aquatic life. This standard will also be used to protect the general criteria found at 10 CSR 20: 7.031 (4). Ten mg/L is the level at which sheen is expected to form on receiving waters. Oils and greases of different densities will possibly form sheen or unsightly bottom deposits at levels which vary from 10 mg/L. To protect the general criteria, it is the responsibility of the permittee to visually observe the discharge and receiving waters for sheen or bottom deposits. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

pH

6.5 to 9.0 SU – instantaneous grab sample. Water quality limits [10 CSR 20-7.031(5)(E)] are applicable to this outfall, continued from the last permit. pH is a widely used water quality indicator, and the range implemented in this permit is considered achievable by industrial facilities using typical BMP measures.

Settleable Solids (SS)

Monitoring with a daily maximum benchmark of 1.5 mL/L/hour, continued from the previous permit. Solids are one of the primary pollutants of concern at landfills. There is no numeric water quality standard for SS; however, sediment discharges can negatively impact aquatic life habitat. Settleable solids are also a valuable indicator parameter. Solids monitoring allows the permittee to identify increases in sediment and solids may indicate uncontrolled materials leaving the site. The benchmark value falls within the range of values implemented in other permits having similar industrial activities.

Total Suspended Solids (TSS)

Monitoring with a daily maximum benchmark of 100 mg/L, continued from the previous permit. Solids are a primary pollutant of concern at landfills, and total suspended solids specifically are identified in the ELG found at 40 CFR 445 and the EPA MSGP Part 8 Subpart K. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the permittee to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

METALS:

Arsenic, Total Recoverable

Annual monitoring. Arsenic was used as a preservative for treating wood, and was used in numerous agricultural insecticides and poisons. Previous monitoring at this site determined arsenic may be a pollutant of concern; however, data collected since 2015 does not indicate a water quality concern. Arsenic is found in the EPA MSGP Part 8 Subpart K and the ELG found at 40 CFR 445, indicating it is a known pollutant of concern at hazardous waste landfills.

Barium, Total Recoverable

Annual monitoring. Barium is used as alloy, in medical applications, and a coloring. It is also found as a naturally occurring element in both soil and surface waters. Previous monitoring at this site determined barium may be a pollutant of concern; however, data collected since 2015 does not indicate a water quality concern. The permittee reported this pollutant “believed present” on application materials for outfall #004.

Beryllium, Total Recoverable

Quarterly monitoring. Beryllium has numerous industrial uses due to its light weight and particular chemical properties, especially as an alloy. There is potential for wastes from these uses to be found at a landfill site. Previous DMR data at this site indicated this pollutant may be a pollutant of concern; however, the test method used for this pollutant was not sufficiently sensitive to determine reasonable potential to exceed water quality standards. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Cadmium, Total Recoverable

Quarterly monitoring. Cadmium has numerous industrial uses, including electroplating, paint, batteries, and metal polish, among others. There is potential for wastes from these uses to be found at a landfill site. Additionally, cadmium is found in the EPA MSGP Part 8 Subpart K, indicating it is a known pollutant of concern at hazardous landfill sites. Previous DMR data at this site indicated this pollutant may be a pollutant of concern. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Chromium (VI), Dissolved

Quarterly monitoring. Chromium VI has several industrial uses, including chrome plating, the manufacture of dye and pigments, leather and wood preservation, and as an alloy with other metals. There is potential for wastes from these uses to be found at a landfill site. DMR data for other stormwater outfalls at this site indicates chromium (VI) is a pollutant of concern, although there have been no exceedances of the water quality standards. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Copper, Total Recoverable

Quarterly monitoring. Copper has numerous industrial uses, from alloys and antimicrobial applications, to wires, cables and paints. It is used as a stabilizing agent in chemical products. Copper is highly toxic to aquatic life, and is a pollutant which is frequently a water quality issue for landfill sites. DMR data from other outfalls at this site indicates copper is a pollutant of concern; however, there have been no exceedances of the water quality standards. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Iron, Total Recoverable

Quarterly monitoring with a daily maximum benchmark of 4,000 µg/L. Iron is a known pollutant of concern at landfill sites around the state, and is found in the ELG at 40 CFR 445 and the EPA MSGP at Part 8, Subpart L. A benchmark is added at a level known to be achievable in a variety of industries utilizing typical BMP measures. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Lead, Total Recoverable

Annual monitoring. Lead is found in electronics, bullets, construction, and in alloys, among other industrial uses. It is a pollutant of concern at landfills, as identified in the EPA MSGP Part 8, Subpart K. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Manganese, Total Recoverable

Quarterly monitoring. DMRs have identified manganese as a pollutant of concern at the site. Additionally, the permittee reported the pollutant “believed present” for all three new outfalls on application materials. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Mercury, Total Recoverable

Annual monitoring. Mercury is found in cosmetics, medical devices, among other industrial uses. It is a pollutant of concern at landfills, as identified in the EPA MSGP Part 8, Subpart K. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Selenium, Total Recoverable

Quarterly monitoring. Selenium is used in glass, alloys, batteries, and other industrial uses. It is a pollutant of concern at landfills, as identified in the EPA MSGP Part 8, Subpart K. DMR reports have indicated selenium is a pollutant of concern at this site; however, there have been no exceedances of the water quality standards. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to ensure effluent has no reasonable potential for exceedances. The water quality standards are below the most commonly used analytical method’s detection limits. However, 40 CFR 136 indicates effluent characteristics can be effectively quantified using EPA approved method 200.9 or 3113B. The facility must choose one of these two methods to attain compliance with Standard Conditions Part I Section A 4.

Silver, Total Recoverable

Quarterly monitoring. Silver is primarily used industrially in electronics. It is a pollutant of concern at landfills, as identified in the EPA MSGP Part 8, Subpart K. DMR reports have indicated silver is a pollutant of concern at this site; however, it is possible the permittee was not using sufficiently sensitive laboratory methods. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

Thallium, Total Recoverable

Quarterly monitoring. Thallium is primarily used industrially in electronics and optics. DMR reports have indicated thallium is a pollutant of concern at this site; however, it is possible the permittee was not using sufficiently sensitive laboratory methods. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to ensure effluent has no reasonable potential for exceedances. The water quality standards for thallium are below the most commonly used analytical method's detection limits. However, 40 CFR 136 indicates effluent characteristics can be effectively quantified using EPA approved method 200.9 or 3120B. The facility must choose one of these two methods to attain compliance with Standard Conditions Part I Section A 4.

Zinc, Total Recoverable

Quarterly monitoring. Zinc has numerous industrial applications, the most prevalent of which are batteries and anti-corrosion agents. It is also commonly used as an alloy and in industrial chemical compounds such as flame retardants and wood preservatives. It can also be found in agricultural fungicides and pesticides. It is a pollutant of concern at hazardous waste landfills as identified at 40 CR 445. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

NUTRIENTS:

Ammonia, Total as Nitrogen

Quarterly monitoring. Ammonia is a primary component of leachate, and has been identified as a pollutant of concern at landfills in both the EPA's MSGP Part 8, subpart K and the ELG found at 40 CFR 445. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly basis to evaluate whether the effluent has reasonable potential for exceedances.

OTHER:

Benzene

Quarterly monitoring, continued from the previous permit. Benzene is a volatile organic compound and a common component of gasoline. It is used as an intermediate in the production of numerous other chemicals, especially phenols and acetones. The landfill has heavy truck traffic, and wastes containing benzene were potentially discarded at this site. No data was available for these outfalls at renewal, therefore monitoring is continued on a quarterly to evaluate whether the effluent has reasonable potential for exceedances.

Chloride + Sulfate

Quarterly monitoring, continued from the previous permit. Chloride and sulfate is a known pollutant of concern at landfills across Missouri. It is in the best professional judgment of the permit writer to add this pollutant for monitoring. The permittee will determine chloride + sulfate by sampling for both sulfates and chlorides and adding the total of them together to be reported as one parameter.

OTHER (OUTFALL #004 ONLY):

1,1,1-Trichloroethane, 1,1-Dichloroethylene (1,1-DCE), 1,2-cis-Dichloroethylene (1,2-DCE), 2,4,5-Trichlorophenol (2,4,5-TP), Benzoic Acid, Chloroethane, Chloroform, Demeton (Systox), Diethyl Phthalate, Disulfoton, Ethylbenzene, Lindane (γ -BHC), MCPP (Mecoprop), Naled (Dibrom), o,o,o-Triethyl Phosphorothioate, p-Cresol, Phenol, Phorate, Tetrachloroethylene (PERC), α -Terpineol, Toluene, Trichloroethylene (TCE), Xylene

Monitoring only. These pollutants are added as they are identified as pollutants of concern at the site, and correspond to the monitoring previously required at outfall #002. Outfall #004 receives much of the effluent which previously was monitored at outfall #002. See info at outfall #003 and note 1 in the permit to determine test methods which are compliant with Standard Conditions Part I Section A4 for certain pollutants.

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 all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. <http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf>. 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 two years old, such 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.

✓ This permit will maintain synchronization by expiring the end of the 3rd quarter, 2024.

PUBLIC NOTICE:

The Department shall give public notice a draft permit has been prepared and its issuance is pending. <http://dnr.mo.gov/env/wpp/permits/pn/index.html>. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in or with water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

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

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

✓ The Public Notice period for this operating permit was from 11/22/2019 to 12/23/2019. No comments were received.

DATE OF FACT SHEET: 11/07/2019

COMPLETED BY:

AMBERLY SCHULZ, ENVIRONMENTAL SPECIALIST III
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION – STORMWATER AND CERTIFICATION UNIT
(573) 751-8049
amberly.schulz@dnr.mo.gov



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
MAY 1, 2013

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

1. Definitions

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

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

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

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

2. Identification of Industrial Discharges

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

3. Application Information

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

4. Notice to the Department

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

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

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

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

32/58

RECEIVED

APR 3 2019

Operating Permit Section



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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 4-3-19	FEE SUBMITTED 0.80

NOTE: PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for: (Select only one.)

- An operating permit for a new or unpermitted facility. Number of original construction permit: MO _____
- Renewal of an operating permit. Permit number: MO 0099503 Expiration date: 30 September 2019
- Modification of an operating permit. Permit number: MO _____ Modification reason: _____

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

2. FACILITY

NAME	TELEPHONE NUMBER WITH AREA CODE (573) 636-1144		
BFI Missouri City Landfill	EMAIL bzimmerman2@republicservices.com		
PHYSICAL ADDRESS (PHYSICAL) 8501 Stillhouse Road	CITY Liberty	STATE MO	ZIP CODE 64068

3. OWNERS

NAME	TELEPHONE NUMBER WITH AREA CODE (573) 636-1144		
1) Missouri City Landfill, LLC 2) BFI Waste Systems of North America, LLC as successor by merger to Browning-Ferris Industries of Kansas City, Inc.	EMAIL bzimmerman2@republicservices.com		
MAILING ADDRESS 5605 Moreau River Access Road	CITY Jefferson City	STATE MO	ZIP CODE 65101

3.1 Do you want to review draft permit prior to public notice? Yes No

4. CONTINUING AUTHORITY

NAME	TELEPHONE NUMBER WITH AREA CODE (573) 636-1144		
BFI Waste Systems of North America, LLC	EMAIL bzimmerman2@republicservices.com		
MAILING ADDRESS 5605 Moreau River Access Road	CITY Jefferson City	STATE MO	ZIP CODE 65101

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
Same as Continuing Authority	EMAIL		
MAILING ADDRESS	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Brad Zimmerman	Environmental Manager	(573) 636-1144
	EMAIL	bzimmerman2@republicservices.com

7. ADDITIONAL FACILITY INFORMATION

SEE ATTACHMENT 1

7.1 Legal description of outfalls (Attach additional sheets, if necessary.)

001 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 _____ 1/4 _____ 1/4 Sec 5 T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

004 _____ 1/4 _____ 1/4 Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

7.2 Primary standard industrial classification (SIC) and North American Industrial Classification System (NAICS) codes

001 – SIC _____ and NAICS _____ 002 – SIC _____ and NAICS _____
003 – SIC _____ and NAICS _____ 004 – SIC _____ and NAICS _____

APR 3 2019

MISSOURI CITY LANDFILL, LLC
8501 Stillhouse Road
Liberty, MO 64068

03 April 2019

Ms. Heather Peters
Chief, Industrial Permits Unit
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

**Subject: Renewal Application for the Missouri City Landfill Operating Permit,
MO-0099503**

Ms. Peters,

Enclosed please find renewal application materials for the Missouri City Landfill National Pollutant Discharge Elimination System (NPDES) permit (MO-0099503) that will be expiring 30 September 2019. The Missouri City Landfill (MOCL) is a closed landfill located in Clay County, Missouri (approximately one mile north of Missouri City). The current MOCL NPDES permit, modified on 01 February 2019, covers four stormwater outfalls on the site (#001, #004, #005 and #006). BFINA has also completed construction of a new water treatment unit as part of a corrective action measure at MOCL, which discharges treated water through Outfall #003.

To renew the current NPDES permit, the Department requests that Forms A and C be submitted. The current submittal includes a completed Form A and a completed Form C for Outfall #003. Form C for Outfall #001 is not included because monitoring of this outfall is no longer required. Form C is included for the remaining outfalls (#004, #005 and #006), however, these forms are blank because sampling data necessary to complete them are not yet available. Due to its intermittent nature, stormwater samples are challenging to collect. However, every effort will be taken to collect the data and submit Form C as soon as possible.

If you need additional information or clarification regarding the renewal application, please let me know. We appreciate your time and attention on this matter.

Sincerely,



Brad Zimmerman
Environmental Manager

Enclosures: BFINA Missouri City Landfill (MO-0099503) Permit Renewal Application
Copies to: Judith George
Rebecca Daprato

8. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE APPLICATION (Complete all applicable forms.)			
A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C or 2F. (2F is EPA's Application for Storm Water Discharges Associated with Industrial Activity.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
B.	Is application for stormwater discharges only? If yes, complete Form C or 2F.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
C.	Is your facility considered a "primary industry" under EPA guidelines: If yes, complete Forms C or 2F and D.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
D.	Is wastewater land-applied? If yes, complete Form I.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
E.	Are biosolids, sludge, ash or residuals generated, treated, stored or land-applied? If yes, complete Form R.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
F.	If you are a Class IA CAFO, disregard Parts D and E, above, but attach any revisions to the nutrient management plan.		
G.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		
9. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM			
Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, permittee shall report effluent limits and monitoring via an electronic system to ensure timely, complete, accurate and nationally consistent data. Check one of the following for this application to be considered complete. (Check only one.) To access the facility participation package, visit dnr.mo.gov/env/wpp/edmr.htm .			
<input type="checkbox"/> You completed and submitted with this permit application the required documentation to participate in the eDMR system.			
<input checked="" type="checkbox"/> You previously submitted required documentation to participate in the eDMR system and/or you currently use the eDMR system.			
<input type="checkbox"/> You submitted a written request for a waiver from electronic reporting. See instructions for information regarding waivers.			
9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. PLEASE SHOW LOCATION ON MAP. SEE 8(D) ABOVE.			
NAME Please see supplemental page in this application that lists downstream property owners for each of the Outfalls.			
ADDRESS		CITY	STATE ZIP CODE
11. I certify that I am familiar with the information contained in this application. To the best of my knowledge and belief, such information is true, complete and accurate. 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 to the Missouri Clean Water Commission available to the applicant under the Missouri Clean Water Law.			
NAME AND OFFICIAL TITLE (TYPE OR PRINT) Brad Zimmerman, Environmental Manager		TELEPHONE NUMBER WITH AREA CODE (573) 636-1144	
SIGNATURE 		DATE SIGNED 4/3/19	

MO 780-1479 (04-18)

**BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETE.
ALSO INCLUDE APPLICABLE ADDITIONAL FORMS.**

Submitting an incomplete application may result in the application being returned.

HAVE YOU INCLUDED THE FOLLOWING?

- | | |
|--|--|
| <input type="checkbox"/> Appropriate fees | <input type="checkbox"/> Form I (Irrigation), if applicable |
| <input type="checkbox"/> Map at 1" = 2000' scale | <input type="checkbox"/> Form R (Sludge), if applicable |
| <input type="checkbox"/> Signature | <input type="checkbox"/> Revised nutrient management plan, if applicable |
| <input type="checkbox"/> Form C or 2F, if applicable | |
| <input type="checkbox"/> Form D, if applicable | |

**Missouri City Landfill Operating Permit (MO-0099503) Application
Attachment 1**

Form A

Section 7.1 (Form A, page 1) – Legal Description for Each Outfall

Outfall #001 – SE ¼, SE ¼, Sec. 5, T51N, R30W, Clay County, X= 388587 Y= 434577
Outfall #003 – NE ¼, SW ¼, Sec. 8, T51N, R30W, Clay County, X= 387885 Y= 4344777
Outfall #004 – SW ¼, NE ¼, Sec. 8, T51N, R30W, Clay County, X= 388369 Y= 4345084
Outfall #005 – NW ¼, NE ¼, Sec. 8, T51N, R30W, Clay County, X= 388503 Y= 4345252
Outfall #006 – NE ¼, SW ¼, Sec. 8, T51N, R30W, Clay County, X=387910 Y= 4344802

Section 7.2 (Form A, page 1) – SIC and NAICS Codes

Outfall #001 – SIC: 4953 NAICS: 562212
Outfall #003 – SIC: 4953 NAICS: 562212
Outfall #004 – SIC: 4953 NAICS: 562212
Outfall #005 – SIC: 4953 NAICS: 562212
Outfall #006 – SIC: 4953 NAICS: 562212

Section 9 (Form A, page 2) – First Downstream Landowner
(retrieved from www.claycountymo.gov/assessor on 3/8/2019)

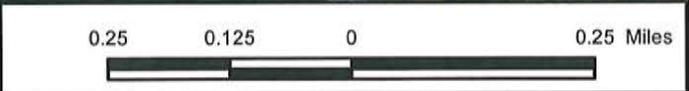
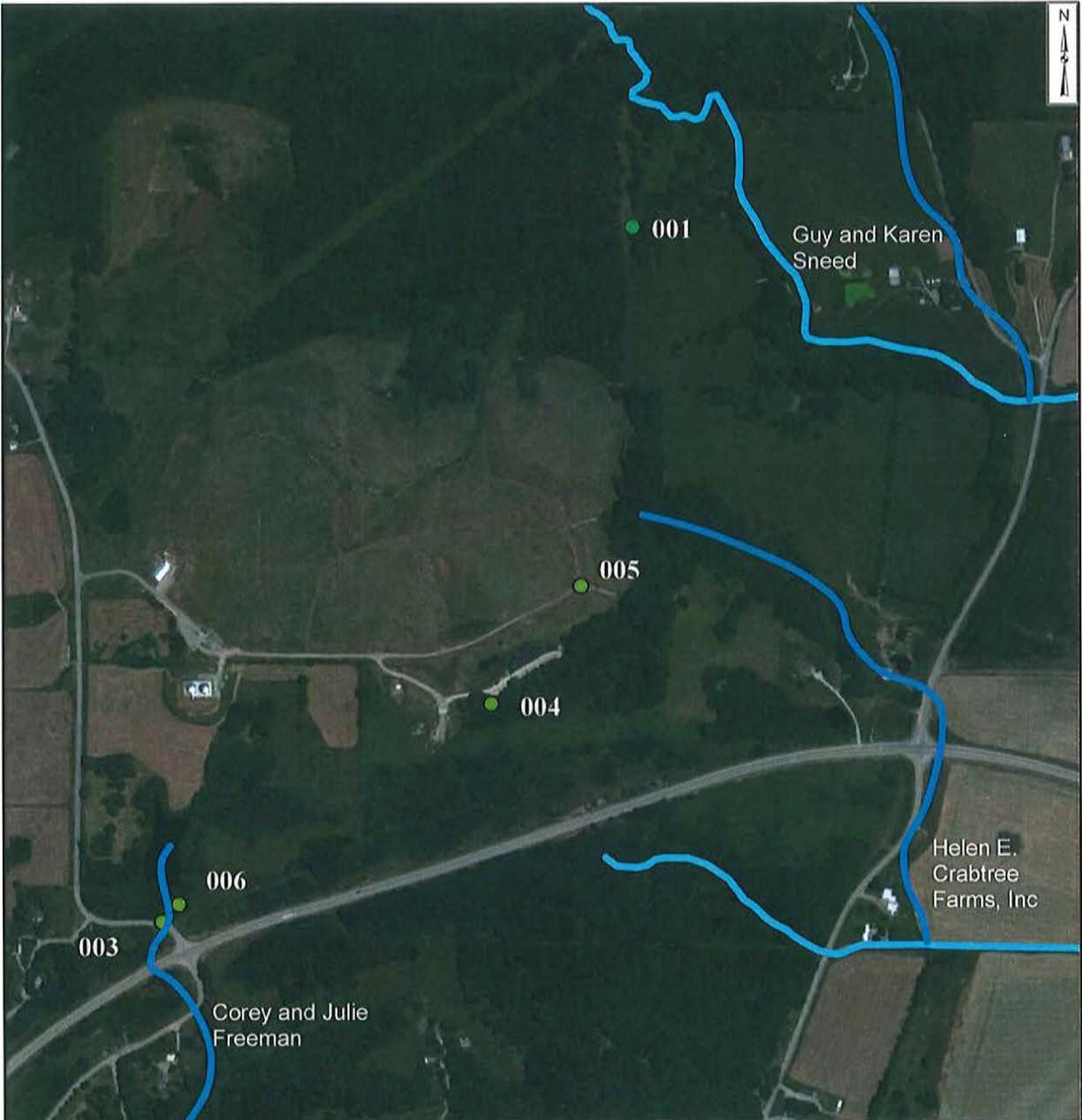
Outfall #001 Guy and Karen Sneed
8816 Easley Rd
Excelsior Springs, Missouri 64024

Outfall #003 Corey and Julie Freeman
314 Stillhouse Rd
Liberty, Missouri 64068

Outfall #004 Helen E. Crabtree Farms, Inc.
712 Sagamore Rd
Excelsior Springs, Missouri 64024

Outfall #005 Helen E. Crabtree Farms, Inc.
712 Sagamore Rd
Excelsior Springs, Missouri 64024

Outfall #006 Corey and Julie Freeman
314 Stillhouse Rd
Liberty, Missouri 64068



MO-0099503
 BFI Missouri City Landfill
 Outfall Locations
 Missouri City, MO

Legend	
	Unclassified Streams
	Classified Streams
	Outfall Location

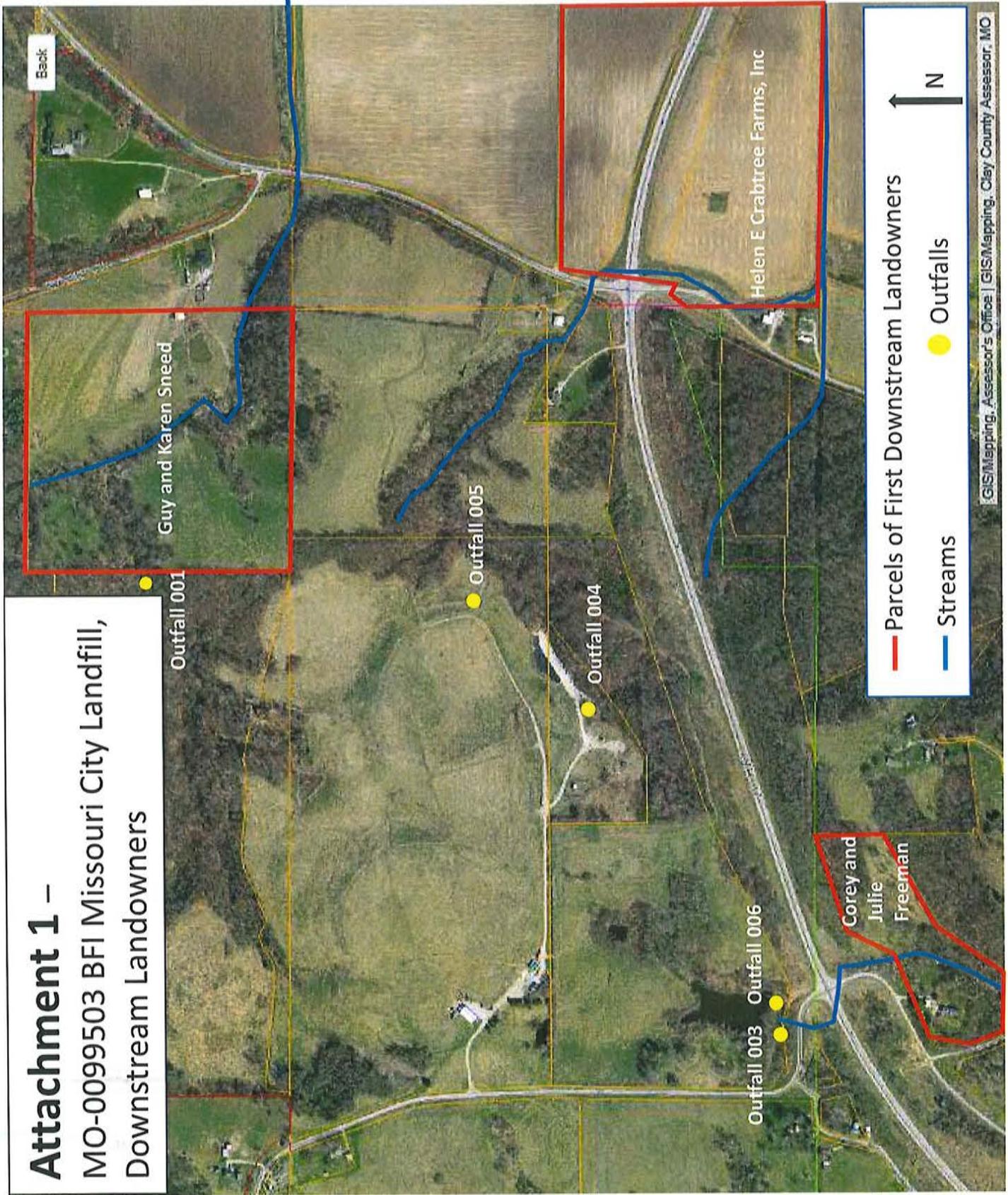
Geosyntec
 consultants

Jefferson City, Missouri March 2019

Attachment
 1

Attachment 1 –

MO-0099503 BFI Missouri City Landfill,
Downstream Landowners



INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT

1. Check only one option. Nondomestic permit refers to a permit issued by the Water Protection Program for **nondomestic** wastewater treatment facilities, including industry, stormwater and Class IA concentrated animal feeding operations. **This includes nondomestic wastewater treatment facilities that incorporate domestic wastewater into the operating permit.**

1.1 OPERATING PERMIT FEES

Fee schedules appear in 10 CSR 20-6.011: s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf.

- **Application for a permit renewal:** No fee required.
- **Application for a new permit:** Submit with the original permit application the annual operating permit fee listed below that correlates to the facility. The department bases these fees on the types of waste stream and the total design flow in millions of gallons per day (MGD) for discharges from the facility.
 - 1) Industrial wastewater and stormwater discharges subject to an effluent guideline and standard (ELG) as defined in 40 CFR Chapter 1 Subchapter N (www.epa.gov/eg/industrial-effluent-guidelines):

Design Flow \geq 1 MGD	=	\$5,000
Design Flow < 1 MGD	=	\$4,200
 - 2) Industrial wastewater discharges not included under category (1), above:

Design Flow \geq 1 MGD	=	\$3,000
Design Flow < 1 MGD	=	\$1,800
 - 3) Industrial stormwater discharges not included under category (1), above:

Design Flow \geq 1 MGD	=	\$2,800
Design Flow < 1 MGD	=	\$1,800
 - 4) Concentrated Animal Feeding Operation:

Class IA operation	=	\$5,000
--------------------	---	---------
- **Application for Modification of a Permit:** If the application is for a modification of a permit, submit the appropriate modification fee with the request.

Major Modification	=	25% of annual operating fee
Minor Modification	=	\$100

Note: Changes to facility's name and address when the owner, operator and continuing authority remain the same do not constitute transfers, according to the department.

The department will return an incomplete permit application and/or related engineering documents if they are not completed within the time frame established in a comment letter from the department to the owner. Applicant will forfeit permit fees for returned applications. Applicant will forfeit fees if applicant withdraws application that the department is processing.

2. Facility - Provide the name by which this facility is known locally. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Also include the street address or location of the facility. If the facility lacks a street name or route number, give the names of the closest intersections, highways, county roads, etc.
3. Owner - Provide the legal name and address of owner.
- 3.1 Before placing a permit on public notice, the department will provide applicant 10 days to review the draft permit for nonsubstantive drafting errors. To expedite issuance, applicants may waive the opportunity to review draft prior to public notice. Check Yes to review the draft permit before public notice. Check No to waive the process and expedite the permit.
4. Continuing Authority - This is the permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. Access the regulatory requirement regarding continuing authority at <http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf> or contact the department's appropriate regional office.
5. Operator - Provide the name, certificate number and telephone number of the person operating the facility.
6. Facility Contact - Provide the name, title and work telephone number of someone who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department, if necessary.

INSTRUCTIONS FOR COMPLETING FORM A – APPLICATION FOR NONDOMESTIC PERMIT (cont.)

- 7.1 An outfall is the point at which wastewater is discharged. Give outfalls in terms of the legal description of the facility. Global positioning system (GPS) is a satellite-based navigation system. The department prefers the use of a GPS receiver at the outfall pipe and submittal of the displayed coordinates. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at dnr.mo.gov/internetmapviewer/.
- 7.2 List only your primary standard industrial classification (SIC) and the North American Industry Classification System code for each outfall. The U.S. Office of Management and Budget devised the SIC system to cover all economic activities. To find the correct SIC code, check unemployment insurance forms or contact the Missouri Division of Employment Security, 573-751-3215. The primary SIC code is for the operation that generates most revenue. If this information is not available, you may use the number of employees or, secondly, production rate to determine the SIC code. Find additional information for standard industrial codes at osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System at www.census.gov/naics, or contact the appropriate regional office of the Missouri Department of Natural Resources.
8. If you answer yes to A, B, C, D or E, complete the supplementary form(s). Submit a U.S. Geological Survey 1" = 2,000' scale map with the permit application showing all outfalls, receiving streams and locations of downstream property owners. Access map at dnr.mo.gov/internetmapviewer/ or from the department's Missouri Geological Survey in Rolla at 573-368-2125.
9. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The facility participation package contains the eDMR permit holder and certifier registration form as well as information about the eDMR system.

The department may grant waivers to electronic reporting per 40 CFR 127.15 under special circumstances. Submit a written request to the department for approval. The department may grant waivers to facilities owned or operated by:

- A. Members of religious communities that choose not to use certain technologies or
- B. Permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) created a broadband map available on the Internet: broadbandmap.gov/. Please contact the department if you need assistance.
10. Provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. Also, indicate location on the map. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner on whose land the discharge flows to after leaving the right-of-way. For no-discharge facilities, provide information for the location to where discharge would flow. For land application sites, include owners of the land application sites and all adjacent landowners.
11. Signature – One person, described in A, B or C as follows, must sign the application; the signature must be **original**.
- A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
- B. For a partnership or sole proprietorship, by a general partner or the proprietor.
- C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.
12. Submitting an incomplete application may result in the application being returned.

Submit completed form and applicable permit fees to: Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176

For more information, contact:

Appropriate regional office of the Missouri Department of Natural Resources.
Go to dnr.mo.gov/regions/ro-map.pdf to access a map of regional offices and contact information.

Or
Missouri Department of Natural Resources
Water Protection Program
Operating Permits Section
P.O. Box 176
Jefferson City, MO 65102-0176
800-361-4827 or 573-751-6825
www.dnr.mo.gov/env/wpp/index.html



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION BRANCH
FORM C – APPLICATION FOR DISCHARGE PERMIT –
MANUFACTURING, COMMERCIAL, MINING,
SILVICULTURE OPERATIONS, PROCESS AND STORMWATER

FOR AGENCY USE ONLY	
CHECK NO.	
DATE RECEIVED	FEE SUBMITTED

NOTE: DO NOT ATTEMPT TO COMPLETE THIS FORM BEFORE READING THE ACCOMPANYING INSTRUCTIONS

1.00 NAME OF FACILITY
 BFI Missouri City Landfill

1.10 THIS FACILITY IS NOW IN OPERATION UNDER MISSOURI OPERATING PERMIT NUMBER
 MO-0099503

1.20 THIS IS A NEW FACILITY AND WAS CONSTRUCTED UNDER MISSOURI CONSTRUCTION PERMIT NUMBER (COMPLETE ONLY IF THIS FACILITY DOES NOT HAVE AN OPERATING PERMIT).

2.00 LIST THE STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES APPLICABLE TO YOUR FACILITY (FOUR DIGIT CODE)

A. FIRST 4953 B. SECOND _____
 C. THIRD _____ D. FOURTH _____

2.10 FOR EACH OUTFALL GIVE THE LEGAL DESCRIPTION.

OUTFALL NUMBER (LIST) _____ 1/4 _____ 1/4 SEC _____ T _____ R _____ See Attachment 2 COUNTY

2.20 FOR EACH OUTFALL LIST THE NAME OF THE RECEIVING WATER

OUTFALL NUMBER (LIST) RECEIVING WATER
See Attachment 2

2.30 BRIEFLY DESCRIBE THE NATURE OF YOUR BUSINESS

The BFI Missouri City Landfill is a closed landfill in post-closure care.

2.40 CONTINUED

C. EXCEPT FOR STORM RUNOFF, LEAKS OR SPILLS, ARE ANY OF THE DISCHARGES DESCRIBED IN ITEMS A OR B INTERMITTENT OR SEASONAL?
 YES (COMPLETE THE FOLLOWING TABLE) **NO (GO TO SECTION 2.50)**

1. OUTFALL NUMBER <i>(list)</i>	2. OPERATION(S) CONTRIBUTING FLOW <i>(list)</i>	3. FREQUENCY		4. FLOW				C. DURATION <i>(in days)</i>
		A. DAYS PER WEEK <i>(specify average)</i>	B. MONTHS PER YEAR <i>(specify average)</i>	A. FLOW RATE <i>(in mgd)</i>		B. TOTAL VOLUME <i>(specify with units)</i>		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	
003	Water Treatment Plant - Treatment includes Oil/water separator, greensand filtration, advanced oxidation (UV and H2O2), air stripper, carbon absorption and storage. Discharge from storage occurs approximately once per month as a batch discharge.	<1 No more than 24 hours every 2 weeks	12	0.237	0.241	0.237 MG	0.241 MG	<1

2.50 MAXIMUM PRODUCTION

A. DOES AN EFFLUENT GUIDELINE LIMITATION PROMULGATED BY EPA UNDER SECTION 304 OF THE CLEAN WATER ACT APPLY TO YOUR FACILITY?

YES (COMPLETE B.) **NO (GO TO SECTION 2.60)**

B. ARE THE LIMITATIONS IN THE APPLICABLE EFFLUENT GUIDELINES EXPRESSED IN TERMS OF PRODUCTION (OF OTHER MEASURE OF OPERATION)?

YES (COMPLETE c.) **NO (GO TO SECTION 2.60)**

C. IF YOU ANSWERED "YES" TO B. LIST THE QUANTITY THAT REPRESENTS AN ACTUAL MEASUREMENT OF YOUR MAXIMUM LEVEL OF PRODUCTION, EXPRESSED IN THE TERMS AND UNITS USED IN THE APPLICABLE EFFLUENT GUIDELINE AND INDICATE THE AFFECTED OUTFALLS.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS <i>(list outfall numbers)</i>
A. QUANTITY PER DAY	B. UNITS OF MEASURE	C. OPERATION, PRODUCT, MATERIAL, ETC. <i>(specify)</i>	

2.60 IMPROVEMENTS

A. ARE YOU NOW REQUIRED BY ANY FEDERAL, STATE OR LOCAL AUTHORITY TO MEET, ANY IMPLEMENTATION SCHEDULE FOR THE CONSTRUCTION, UPGRADING OR OPERATION OF WASTEWATER TREATMENT EQUIPMENT OR PRACTICES OR ANY OTHER ENVIRONMENTAL PROGRAMS THAT MAY AFFECT THE DISCHARGES DESCRIBED IN THIS APPLICATION? THIS INCLUDES, BUT IS NOT LIMITED TO, PERMIT CONDITIONS, ADMINISTRATIVE OR ENFORCEMENT ORDERS, ENFORCEMENT COMPLIANCE SCHEDULE LETTERS, STIPULATIONS, COURT ORDERS AND GRANT OR LOAN CONDITIONS.

YES (COMPLETE THE FOLLOWING TABLE) **NO (GO TO 3.00)**

1. IDENTIFICATION OF CONDITION AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
				A. REQUIRED	B. PROJECTED

B. OPTIONAL: YOU MAY ATTACH ADDITIONAL SHEETS DESCRIBING ANY ADDITIONAL WATER POLLUTION CONTROL PROGRAMS (OR OTHER ENVIRONMENTAL PROJECTS WHICH MAY AFFECT YOUR DISCHARGES) YOU NOW HAVE UNDER WAY OR WHICH YOU PLAN. INDICATE WHETHER EACH PROGRAM IS NOW UNDER WAY OR PLANNED, AND INDICATE YOUR ACTUAL OR PLANNED SCHEDULES FOR CONSTRUCTION.

MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED.

3.10 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 RECEIVING WATER IN RELATION TO YOUR DISCHARGE WITHIN THE LAST THREE YEARS?

YES (IDENTIFY THE TEST(S) AND DESCRIBE THEIR PURPOSES BELOW.) NO (GO TO 3.20)

Acute WET tests have been performed on Outfall 003 effluent prior to discharges on 11/14/2018, 1/7/2019, and 2/4/2019. Results for all three tests were <1 T. U.

3.20 CONTRACT ANALYSIS INFORMATION

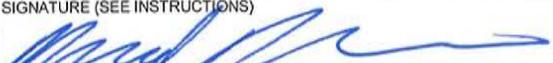
WERE ANY OF THE ANALYSES REPORTED PERFORMED BY A CONTRACT LABORATORY OR CONSULTING FIRM?

YES (LIST THE NAME, ADDRESS AND TELEPHONE NUMBER OF AND POLLUTANTS ANALYZED BY EACH SUCH LABORATORY OR FIRM BELOW.) NO (GO TO 3.30)

A. NAME	B. ADDRESS	C. TELEPHONE (area code and number)	D. POLLUTANTS ANALYZED (list)
Pace Analytical	7726 Moller Rd Indianapolis, IN 46268	317-228-3100	All Analyses

3.30 CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

NAME AND OFFICIAL TITLE (TYPE OR PRINT) Brad Zimmerman, Environmental Manager	TELEPHONE NUMBER WITH AREA CODE (573) 636-1144
SIGNATURE (SEE INSTRUCTIONS) 	DATE SIGNED 4/3/19

PLEASE PRINT OR TYPE. You may report some or all of this information on separate sheet
(Use the same format) instead of completing these pages.
SEE INSTRUCTIONS

FORM C
TABLE 1 FOR 3.00 ITEM A AND B

OUTFALL NO.

INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT				3. UNITS (specify if blank)				4. INTAKE (optional)			
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
A. Biochemical Oxygen Demand (BOD)	See											
B. Chemical Oxygen Demand (COD)	Atchmt. 2											
C. Total organic Carbon (TOC)												
D. Total Suspended Solids (TSS)												
E. Ammonia (as N)												
F. Flow	VALUE				VALUE					VALUE		
G. Temperature (winter)	VALUE				VALUE					VALUE		
H. Temperature (summer)	VALUE				VALUE					VALUE		
I. pH	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM						STANDARD UNITS		

PART B - Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark column 2A for any pollutant, you must provide the results for at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS				5. INTAKE (optional)			
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE (if available)		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						
CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS														
A. Bromide (24959-67-9)														
B. Chlorine, Total Residual														
C. Color														
D. Fecal Coliform														
E. Fluoride (16984-48-8)														
F. Nitrate - Nitrate (as N)														

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE		B. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS						
G. Nitrogen, Total Organic (as N)														
H. Oil and Grease														
I. Phosphorus (as P), Total (7723-14-0)														
J. Sulfate (as SO ₄) (14808-79-8)														
K. Sulfide (as S)														
L. Sulfite (as SO ₃) (14265-45-3)														
M. Surfactants														
N. Aluminum, Total (7429-90-5)														
O. Barium, Total (7440-39-3)														
P. Boron, Total (7440-42-8)														
Q. Cobalt, Total (7440-48-4)														
R. Iron, Total (7439-89-6)														
S. Magnesium, Total (7439-95-4)														
T. Molybdenum, Total (7439-98-7)														
U. Manganese, Total (7439-96-5)														
V. Tin, Total (7440-31-5)														
W. Titanium, Total (7440-32-6)														

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	A. LONG TERM AVRG. VALUE	
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS
METALS, AND TOTAL PHENOLS											
1M. Antimony, Total (7440-36-9)											
2M. Arsenic, Total (7440-38-2)											
3M. Beryllium, Total (7440-41-7)											
4M. Cadmium, Total (7440-43-9)											
5M. Chromium III (16065-83-1)											
6M. Chromium VI (18540-29-9)											
7M. Copper, Total (7440-50-8)											
8M. Lead, Total (7439-92-1)											
9M. Mercury, Total (7439-97-6)											
10M. Nickel, Total (7440-02-0)											
11M. Selenium, Total (7782-49-2)											
12M. Silver, Total (7440-22-4)											
13M. Thallium, Total (7440-28-0)											
14M. Zinc, Total (7440-66-6)											
15M. Cyanide, Amenable to Chlorination											
16M. Phenols, Total											
RADIOACTIVITY											
(1) Alpha Total											
(2) Beta Total											
(3) Radium Total											
(4) Radium 226 Total											

**Missouri City Landfill Operating Permit (MO-0099503) Application
Attachment 2**

Form C

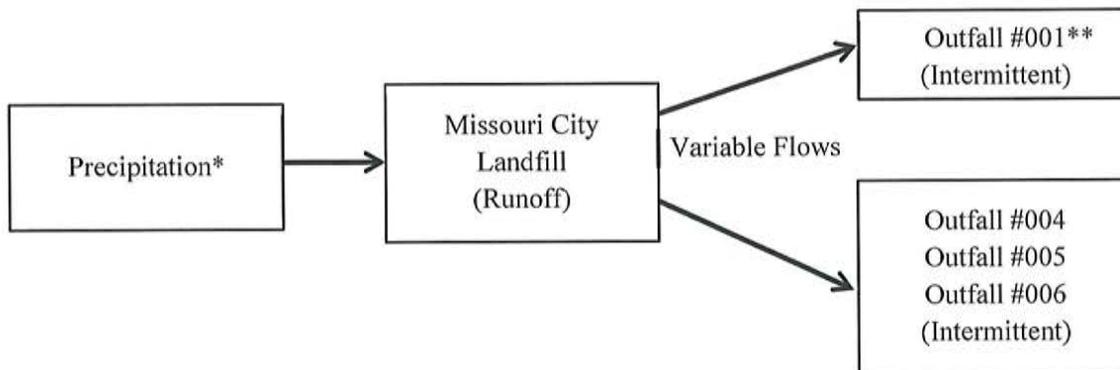
Section 2.10 (Form C, page 1) – Legal Description for Each Outfall

- Outfall #001 – SE ¼, SE ¼, Sec. 5, T51N, R30W, Clay County
- Outfall #003 – NE ¼, SW ¼, Sec. 8, T51N, R30W, Clay County
- Outfall #004 – SW ¼, NE ¼, Sec. 8, T51N, R30W, Clay County
- Outfall #005 – NW ¼, NE ¼, Sec. 8, T51N, R30W, Clay County
- Outfall #006 – NE ¼, SW ¼, Sec. 8, T51N, R30W, Clay County

Section 2.20 (Form C, page 1) – Legal Description for Each Outfall

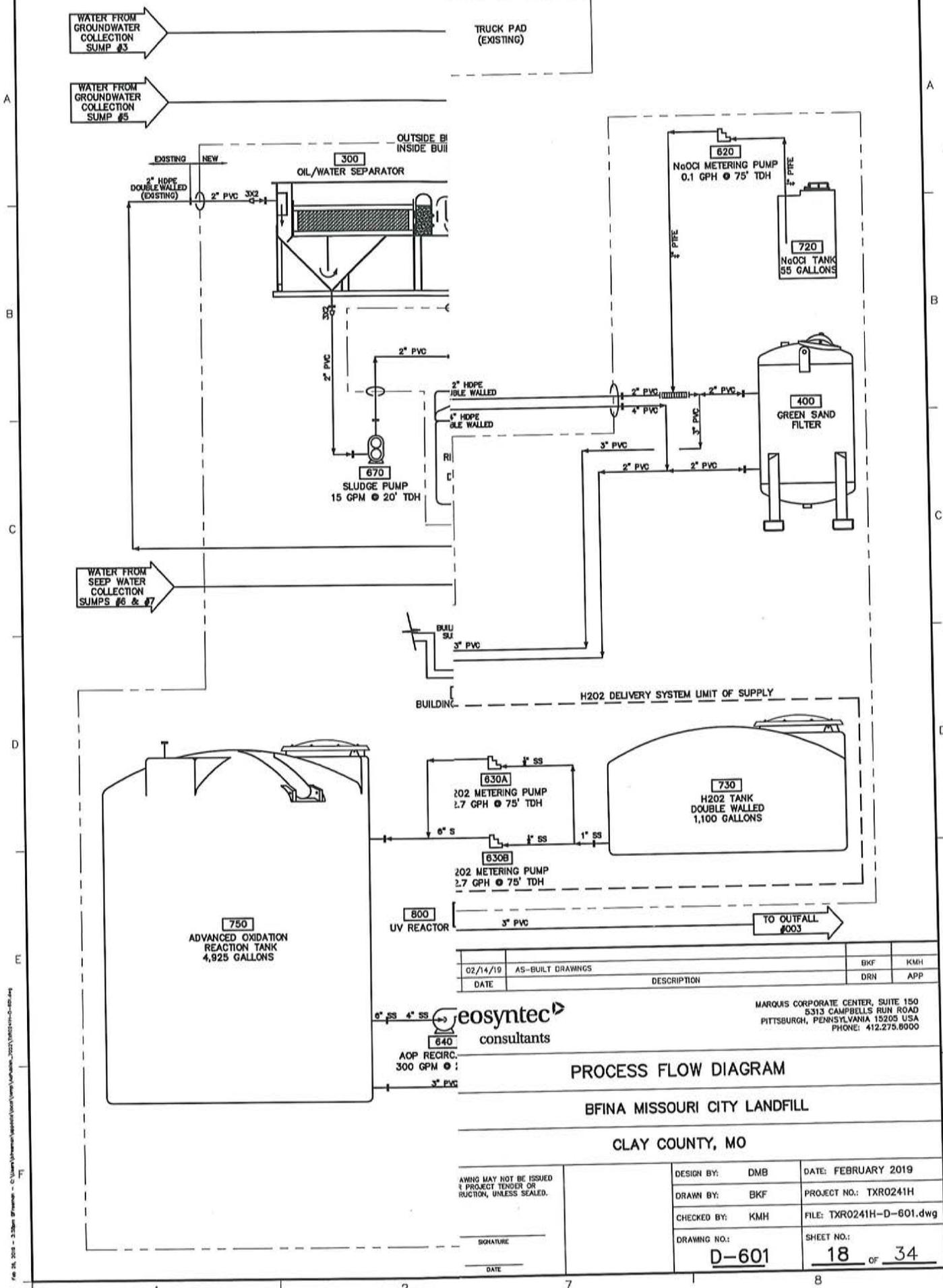
- Outfall #001 – Tributary to Cooley Lake
- Outfall #003 – Tributary to Missouri River
- Outfall #004 – Tributary to Missouri River
- Outfall #005 – Tributary to Missouri River
- Outfall #006 – Tributary to Missouri River

Section 2.40A (Form C, page 2) – Line Drawing of Stormwater Water Flow through Area



*Average Annual Rainfall = 38" at Kansas City International Airport (1973 - Present); Midwest Regional Climate Center

**Outfall 001 - Stormwater runoff from a closed hazardous waste landfill. Monitoring is not required for this outfall, as all stormwater flow to this outfall is from a closed and capped portion of the landfill which is fully vegetated. No other industrial activity occurs in this area.



DATE	DESCRIPTION	DRN	APP
02/14/19	AS-BUILT DRAWINGS	BKF	KMH

MARQUIS CORPORATE CENTER, SUITE 150
 5313 CAMPBELLS RUN ROAD
 PITTSBURGH, PENNSYLVANIA 15205 USA
 PHONE: 412.275.8000

eosyntec
 consultants

PROCESS FLOW DIAGRAM

BFNA MISSOURI CITY LANDFILL

CLAY COUNTY, MO

AWING MAY NOT BE ISSUED & PROJECT TENDER OR REJECTION, UNLESS SCALED. SIGNATURE _____ DATE _____	DESIGN BY: DMB	DATE: FEBRUARY 2019
	DRAWN BY: BKF	PROJECT NO.: TXR0241H
	CHECKED BY: KMH	FILE: TXR0241H-D-601.dwg
	DRAWING NO: D-601	SHEET NO.: 18 of 34

Feb 26, 2019 - 3:30pm B:\Projects\2019\TXR0241H\Drawings\TXR0241H-D-601.dwg

Section 3.00 (Form C, page 4) – Intake and Effluent Characteristics

Parts A, B, and C of Section 3.00 were completed for Outfalls #003, #004, #005 and #006. Due to their intermittent nature, samples have not yet been collected for Outfalls #004, #005, and #006, however, facility staff intend to collect a sample in the future, when/if possible, to provide information for Section 3.00 Part A and Part B.

Parts A, B, and C of Section 3.00 are not included for Outfall #001 because monitoring is no longer required for this outfall. The stormwater runoff to Outfall #001 is from a closed and capped portion of the landfill which is fully vegetated has no industrial activity occurring in this area.

Section 3.00, Table 1 Part A Instructions: Provide the results of at least one analysis for every pollutant in this table.

Outfall #003 – Water Treatment Plant

Pollutant	Outfall 003									
	Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Concentration	Mass	Concentration	Mass	Concentration	Mass	Number	Non-Detects	Concentration	Mass
Biochemical Oxygen Demand	1.0	---	1.0	---	1.0	---	4	4	mg/L	---
Chemical Oxygen Demand	8.3	---	7.2	---	4.56	---	4	2	mg/L	---
Total Organic Carbon	---	---	---	---	---	---	---	---	mg/L	---
Total Suspended Solids	2.5	---	2.25	---	1.75	---	4	2	mg/L	---
Total Ammonia as N	0.17	---	0.10	---	0.07	---	4	3	mg/L	---
Flow	0.241		0.241		0.237		3	---	MGD	---
Winter Temperature	--		---		--		---	---	°C	
Summer Temperature	--		---		--		---	---	°C	
pH	Min: 8.0	Max: 8.3	Min: ---	Max: ---	---		---	---	SU	

Section 3.00, Table 1 Part A Instructions: Provide the results of at least one analysis for every pollutant in this table.
 Outfall #004 - New outfall no data to report to date.

Pollutant	Outfall 004										Units	
	Maximum Daily		Maximum 30-Day		Long Term Average		Analyses			Units		
	Concentration	Mass	Concentration	Mass	Concentration	Mass	Total Number	Non-Detects	Concentration	Mass		
Biochemical Oxygen Demand	---	---	---	---	---	---	---	---	mg/L	---		
Chemical Oxygen Demand	---	---	---	---	---	---	---	---	mg/L	---		
Total Organic Carbon	---	---	---	---	---	---	---	---	mg/L	---		
Total Suspended Solids	---	---	---	---	---	---	---	---	mg/L	---		
Total Ammonia as N	---	---	---	---	---	---	---	---	mg/L	---		
Flow	---	---	---	---	---	---	---	---	MGD	---		
Winter Temperature	---	---	---	---	---	---	---	---	°C	---		
Summer Temperature	---	---	---	---	---	---	---	---	°C	---		
pH	Min: --	Max: --	Min: ----	Max: ----	-----	-----	---	---	SU	---		

Section 3.00, Table 1 Part A Instructions: Provide the results of at least one analysis for every pollutant in this table.
Outfall #005 – New outfall no data to report to date.

Outfall 005												
Pollutant	Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units			
	Concentration	Mass	Concentration	Mass	Concentration	Mass	Total Number	Non-Detects	Concentration	Mass		
Biochemical Oxygen Demand	---	---	---	---	---	---	---	---	mg/L	---		
Chemical Oxygen Demand	---	---	---	---	---	---	---	---	mg/L	---		
Total Organic Carbon	---	---	---	---	---	---	---	---	mg/L	---		
Total Suspended Solids	---	---	---	---	---	---	---	---	mg/L	---		
Total Ammonia as N	---	---	---	---	---	---	---	---	mg/L	---		
Flow	---	---	---	---	---	---	---	---	MGD	---		
Winter Temperature	---	---	---	---	---	---	---	---	°C	---		
Summer Temperature	---	---	---	---	---	---	---	---	°C	---		
pH	Min: --	Max: --	Min: ----	Max: ----	-----	-----	---	---	SU	---		

Section 3.00, Table 1 Part A Instructions: Provide the results of at least one analysis for every pollutant in this table.
 Outfall #006 – New outfall no data to report to date.

Pollutant	Outfall 006									
	Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Concentration	Mass	Concentration	Mass	Concentration	Mass	Total Number	Non-Detects	Concentration	Mass
Biochemical Oxygen Demand	---	---	---	---	---	---	---	---	mg/L	---
Chemical Oxygen Demand	---	---	---	---	---	---	---	---	mg/L	---
Total Organic Carbon	---	---	---	---	---	---	---	---	mg/L	---
Total Suspended Solids	---	---	---	---	---	---	---	---	mg/L	---
Total Ammonia as N	---	---	---	---	---	---	---	---	mg/L	---
Flow	---	---	---	---	---	---	---	---	MGD	---
Winter Temperature	---	---	---	---	---	---	---	---	°C	---
Summer Temperature	---	---	---	---	---	---	---	---	°C	---
pH	Min: --	Max: --	Min: ----	Max: ----	-----	-----	---	---	SU	---

Section 3.00, Table 1 Part B Instructions: Identify each parameter you know or have reason to believe is present and report the results of at least one analysis for that parameter.

Outfall #003

Pollutant	Outfall #003											
	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
Bromide		X										
T. Residual Chlorine		X										
Color		X										
Fecal Coliform		X										
Fluoride	X		0.23		0.23		0.22		3	0	mg/L	
Nitrite+Nitrate	X											
T. Organic Nitrogen		X										
Oil & Grease		X										
T. Phosphorus	X		0.70		0.70		0.58		3	0	mg/L	
Sulfate, as SO4	X		75.3		75.3		67.8		4	0	mg/L	
Sulfite, as SO3		X										
Surfactants		X										
T. Aluminum	X		12.7		10.3		8.43		4	0	ug/L	
T. Barium	X		124.0		124.0		101.83		3	0	ug/L	
T. Boron	X		20.2		20.20		12.4		3	0	ug/L	
T. Cobalt		X										
T. Iron	X		342.0		342.0		132.45		4	1	ug/L	
T. Magnesium		X										
T. Manganese	X		427.0		389.0		271.18		4	0	ug/L	
T. Tin		X										
T. Titanium		X										
T. Antimony	X		0.38		0.38		0.28		3	0	ug/L	
T. Arsenic	X		1.3		1.3		0.88		4	0	ug/L	
T. Beryllium		X										
T. Cadmium	X		0.49		0.36		0.25		4	0	ug/L	
Chromium III		X	2.5		2.5		2.5		4	4	ug/L	
Chromium VI		X	2.0		2.0		1.78		4	4	ug/L	
T. Copper		X										
T. Lead		X										
T. Mercury		X										
T. Nickel	X		3.4		3.4		3.0		4	0	ug/L	

Outfall #003

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
T. Selenium		X										
T. Silver		X										
T. Thallium		X										
T. Zinc	X		27.1		27.1		17.65		4	0	ug/L	
Cyanide, Amenable to Chlorination		X										
T. Phenols		X	1.0		1.0		0.89		4	4	mg/L	
T. Alpha		X										
T. Beta		X										
T. Radium		X										
Total Radium 226		X										

Section 3.00, Table 1 Part B (Continued)

Outfall #004

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
Bromide		X										
T. Residual Chlorine		X										
Color		X										
Fecal Coliform		X										
Fluoride		X										
Nitrite+Nitrate		X										
T. Organic Nitrogen		X										
Oil & Grease		X										
T. Phosphorus		X										
Sulfate, as SO4		X										
Sulfite, as SO3		X										
Surfactants		X										
T. Aluminum		X										
T. Barium	X											
T. Boron		X										
T. Cobalt		X										
T. Iron	X											
T. Magnesium		X										
T. Manganese	X											
T. Tin		X										
T. Titanium		X										
T. Antimony		X										
T. Arsenic		X										
T. Beryllium		X										
T. Cadmium		X										
Chromium III		X										
Chromium VI		X										
T. Copper		X										
T. Lead		X										
T. Mercury		X										
T. Nickel		X										
T. Selenium		X										
T. Silver		X										

Outfall #004

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
T. Thallium		X										
T. Zinc		X										
Cyanide, Amenable to Chlorination		X										
T. Phenols		X										
T. Alpha		X										
T. Beta		X										
T. Radium		X										
Total Radium 226		X										

Section 3.00, Table 1 Part B (Continued)

Outfall #005

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
Bromide		X										
T. Residual Chlorine		X										
Color		X										
Fecal Coliform		X										
Fluoride		X										
Nitrite+Nitrate		X										
T. Organic Nitrogen		X										
Oil & Grease		X										
T. Phosphorus		X										
Sulfate, as SO4		X										
Sulfite, as SO3		X										
Surfactants		X										
T. Aluminum		X										
T. Barium		X										
T. Boron		X										
T. Cobalt		X										
T. Iron	X											
T. Magnesium		X										
T. Manganese	X											
T. Tin		X										
T. Titanium		X										
T. Antimony		X										
T. Arsenic		X										
T. Beryllium		X										
T. Cadmium		X										
Chromium III		X										
Chromium VI		X										
T. Copper		X										
T. Lead		X										
T. Mercury		X										
T. Nickel		X										
T. Selenium		X										
T. Silver		X										

Outfall #005

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
T. Thallium		X										
T. Zinc		X										
Cyanide, Amenable to Chlorination		X										
T. Phenols		X										
T. Alpha		X										
T. Beta		X										
T. Radium		X										
Total Radium 226		X										

Section 3.00, Table 1 Part B (Continued)

Outfall #006

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
Bromide		X										
T. Residual Chlorine		X										
Color		X										
Fecal Coliform		X										
Fluoride		X										
Nitrite+Nitrate		X										
T. Organic Nitrogen		X										
Oil & Grease		X										
T. Phosphorus		X										
Sulfate, as SO4		X										
Sulfite, as SO3		X										
Surfactants		X										
T. Aluminum		X										
T. Barium		X										
T. Boron		X										
T. Cobalt		X										
T. Iron	X											
T. Magnesium		X										
T. Manganese	X											
T. Tin		X										
T. Titanium		X										
T. Antimony		X										
T. Arsenic		X										
T. Beryllium		X										
T. Cadmium		X										
Chromium III		X										
Chromium VI		X										
T. Copper		X										
T. Lead		X										
T. Mercury		X										
T. Nickel		X										
T. Selenium		X										
T. Silver		X										

Outfall #006

Pollutant	Mark "X"		Maximum Daily		Maximum 30-Day		Long Term Average		Analyses		Units	
	Believed Present	Believed Absent	Concentration	Mass*	Concentration	Mass	Concentration	Mass*	Total Number	Non-Detects	Concentration	Mass*
T. Thallium		X										
T. Zinc		X										
Cyanide, Amenable to Chlorination		X										
T. Phenols		X										
T. Alpha		X										
T. Beta		X										
T. Radium		X										
Total Radium 226		X										

Section 3.00 Part C Instructions: List any parameters included in Table B of the instructions which you know or have reason to believe is present and report the results for any analytical data in your possession.

Outfall #003

Parameter	Unit	11/14/2018	1/7/2019	2/4/2019	2/26/2019
2,4,5-T	µg/L	0.3 U	0.3 U	0.3 U	--
Vanadium, total	µg/L	0.15 U	0.34 J	0.17 J	--
Naled	µg/L	0.4 U	0.41 U	0.41 U	--
2-Methylphenol (o-Cresol)	µg/L	3 U	2.7 U	2.7 U	--
3&4-Methylphenol (m&p-Cresol)	µg/L	3 U	2.5 U	2.5 U	2.5 U
Aniline	µg/L	2 U	2.4 U	2.4 U	2.4 U
Disulfoton	µg/L	0.2 U	0.22 U	0.22 U	0.22 U
Carbon Disulfide	µg/L	0.3 U	0.34 U	0.34 U	--
Xylenes, Total	µg/L	0.4 U	0.38 U	0.38 U	--

Notes:

U indicates constituent not detected at or above the method detection limit.

J indicates the result is an estimated concentration above the adjusted method detection limit but below the adjusted reporting limit.

Outfalls #001, #004, #005 and #006

The parameters listed in Table B of the instructions are believed to be absent in these outfalls.