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-0097543
Owner:	Champ Landfill Company, LLC
Address:	2305 Creve Coeur Mill Road, Maryland Heights, MO 63043
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Champ Landfill Company, LLC
Facility Address:	2305 Creve Coeur Mill Road, Maryland Heights, MO 63043
Legal Description:	See page 2
UTM Coordinates:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	See page 2

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

FACILITY DESCRIPTION

See page 2

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.

September 1, 2017
Effective Date

August 1, 2019
Modification Date

Edward B. Galbraith, Director, Division of Environmental Quality

March 31, 2021
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION

IESI MO Champ (Champ) is an active sanitary and industrial waste landfill. The approximate total waste accepted daily by Champ is 4,200 tons. The facility is operated in accordance with 10 CSR 80-3.010 (8), which requires the on-site drainage structures be designed to prevent flow onto the active portion of the sanitary landfill during peak discharge from at least a 25 year storm. Any stormwater which contacts the active working face is considered leachate and is handled in a no-discharge manner. Champ uses traditional daily cover or alternative daily covers which include petroleum contaminated soils, posi-shell cover, or tarps. All leachate is ultimately discharged to Metropolitan St. Louis Sewer District (MSD).

A compost area operated by Hansen's Tree is located on the central east side of the North Pit. Champ accepts special asbestos waste which is disposed of in a separate area in the southern section of the west slope of the South Pit. WWTP sludge is accepted as special waste from several plants around the St. Louis area. Treated medical waste is also accepted for disposal.

Portions of the Champ property are leased to Fred Weber, Inc., which operates a limestone quarry onsite. Outfalls #013 and #014 are removed from this permit and responsibility for discharge from these outfalls is transferred to Fred Weber, Inc. Champ outfall #015 accepts groundwater mixed with stormwater pumped from the Fred Weber quarry, with Champ solely responsible for compliance at this outfall. Breckinridge Concrete Plant and North Stone Asphalt Plant operate in the watershed of outfall #011. Champ is the sole responsible party for discharge at this outfall under this permit.

OUTFALL #011 – Process Wastewater and stormwater; SIC # 4953, 2951, 3273
Receives stormwater and washwater from Breckinridge Concrete Company, stormwater from North Stone Asphalt Plant, stormwater from the southern portion of South Pit inactive landfill, storm water from the North Stone quarry stockpiles, and stormwater from an enclosed landfill gas flare station. These sources are associated with runoff and process water from stone transfer, rock crushing, gravel stockpiles, a capped and vegetated landfill, wash water from concrete plant operations, and heavy vehicle traffic. This outfall is treated by a detention and sedimentation basin prior to discharge. pH adjustment to 7.5 SU is also done in the sedimentation basin for this outfall, controlled by a computer-automated carbon dioxide dosing system. Water from this outfall is not discharged by pump, but rather through gravity. Discharge is not a constant discharge, and occurs only with precipitation events. This outfall will be subject only to daily maximum limits for this reason.

Legal Description:	Landgrant 992, St. Louis County
UTM Coordinates:	X = 720394, Y = 4290648
Receiving Stream:	Fee Fee Creek (New) (P) 1704 303(d)
First Classified Stream and ID:	Fee Fee Creek (New) (P) 1704 303(d)
USGS Basin & Sub-watershed No.:	Creve Coeur Creek (010300200-0703)
Average Flow:	Dependent on precipitation

OUTFALL #012 – Terminated in a previous permit cycle; all discharges from this outfall are routed to outfall #011. Discharge is not authorized from this outfall.

OUTFALL #013 – Terminated from this permit. Discharge shall be permitted under a general permit issued to Fred Weber, Inc. Discharge from Champ landfill is not authorized from this outfall.

OUTFALL #014 – Terminated from this permit. Discharge shall be permitted under a general permit issued to Fred Weber, Inc. Discharge from Champ landfill is not authorized from this outfall.

OUTFALL #015 – Process wastewater, stormwater, and groundwater; SIC # 4953, 1422, 2875
Receives stormwater from the North Pit active landfill and northern portion of South Pit inactive landfill, stormwater runoff from the compost operation, and combined groundwater/stormwater from the North stone quarry pit. The groundwater/stormwater is pumped from the pit into the detention/sedimentation basin prior to discharge. The process wastewater entering the treatment basin is associated with stone transfer, rock crushing, and gravel stockpiles.

Legal Description:	Landgrant 1891, St. Louis County
UTM Coordinates:	X = 719884, Y = 4291251
Receiving Stream:	Tributary to Fee Fee Creek (New)
First Classified Stream and ID:	Fee Fee Creek (New) (P) 1704 303(d)
USGS Basin & Sub-watershed No.:	Creve Coeur Creek (010300200-0703)
Average Flow:	Dependent on precipitation

OUTFALL #016 – Unregulated Stormwater
No sampling is required at this outfall, does not receive stormwater from regulated industrial activities. Discharge of landfill or other industrial stormwater is not authorized from this outfall.

Legal Description:	Landgrant 282, St. Louis County
UTM Coordinates:	X = 721685, Y = 4292276
Receiving Stream:	8-20-13 MUDD V 1.0 (C) 3960
First Classified Stream and ID:	8-20-13 MUDD V 1.0 (C) 3960
USGS Basin & Sub-watershed No.:	Cowmire Creek-Missouri River (10300200-0801)
Average Flow:	Dependent on precipitation

OUTFALL #017 – Terminated in a previous permit modification. Receives water from Maryland Heights Expressway; a berm prevents stormwater from the landfill from entering the drainage basin of this outfall. Landfill discharge is not authorized from this outfall.

OUTFALL #018 – Terminated in a previous permit modification. Receives water from Maryland Heights Expressway; a berm prevents stormwater from the landfill from entering the drainage basin of this outfall. Landfill discharge is not authorized from this outfall.

OUTFALL #019 – Unregulated Stormwater
No sampling at this outfall, does not receive stormwater from regulated industrial activities. Receives stormwater from a vegetated stockpile. Stormwater from regulated industrial activities is not authorized for discharge from this outfall. A truck wash is also located in the watershed of this outfall; however, washwater is captured and not discharged.

Legal Description:	Landgrant 1891, St. Louis County
UTM Coordinates:	X = 720550, Y = 4292062
Receiving Stream:	Tributary to Fee Fee Creek (New)
First Classified Stream and ID:	Fee Fee Creek (New) (P) 1704 303(d)
USGS Basin & Sub-watershed No.:	Creve Coeur Creek (10300200-0703)
Average Flow:	Dependent on precipitation

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #011
Process water and stormwater

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 **September 1, 2017** 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	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY◊	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*			once/quarter	24 hr. total
Precipitation§	inches	*			once/quarter	measure
CONVENTIONAL						
Biochemical Oxygen Demand$_5$	mg/L	*			once/quarter	grab
Chemical Oxygen Demand	mg/L	120			once/quarter	grab
Oil & Grease	mg/L	15			once/quarter	grab
pH Ω	SU	6.5 to 9.0			once/quarter	grab
Settleable Solids	mL/L/hr	1.5			once/quarter	grab
Total Suspended Solids	mg/L	80			once/quarter	grab
METALS						
Aluminum, Total Recoverable	µg/L	*			once/quarter	grab
Antimony, Total Recoverable	µg/L	8643			once/quarter	grab
Arsenic, Total Recoverable	µg/L	33			once/quarter	grab
Beryllium, Total Recoverable	µg/L	8			once/quarter	grab
Cadmium, Total Recoverable	µg/L	8.2			once/quarter	grab
Chromium (III), Total Recoverable	µg/L	2677			once/quarter	grab
Chromium (VI), Dissolved	µg/L	15			once/quarter	grab
Copper, Total Recoverable	µg/L	22.0			once/quarter	grab
Iron, Total Recoverable	µg/L	4000			once/quarter	grab
Lead, Total Recoverable	µg/L	151			once/quarter	grab
Mercury, Total Recoverable	µg/L	2.4			once/quarter	grab
Nickel, Total Recoverable	µg/L	706			once/quarter	grab
Selenium, Total Recoverable	µg/L	8.0			once/quarter	grab
Silver, Total Recoverable	µg/L	8.7			once/quarter	grab
Thallium, Total Recoverable	µg/L	12.7			once/quarter	grab
Zinc, Total Recoverable	µg/L	180			once/quarter	grab
NUTRIENTS						
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	 3.7 7.5			once/quarter	grab
OTHER						
Benzene	µg/L	*			once/quarter	grab
Chloride	mg/L	*			once/quarter	grab
Chloride + Sulfate	mg/L	1000			once/quarter	grab
Fluoride	mg/L	6.5			once/quarter	grab
Sulfate	mg/L	*			once/quarter	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE NEXT REPORT IS DUE OCTOBER 28, 2019. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

OUTFALL #015
Process water, stormwater, and groundwater discharges

TABLE A-2
INTERIM 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 interim effluent limitations shall become effective on **September 1, 2017** and remain in effect through **June 18, 2022**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY◊	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/quarter	24 hr. total
Precipitation[§]	inches	*		*	once/quarter	measure
CONVENTIONAL						
Biochemical Oxygen Demand$_5$	mg/L	*		*	once/quarter	grab
Chemical Oxygen Demand	mg/L	120		90	once/quarter	grab
Oil & Grease	mg/L	15		10	once/quarter	grab
pH [Ω]	SU	6.5 to 9.0		-	once/quarter	grab
Settleable Solids	mL/L/hr	1.5		1.0	once/quarter	grab
Total Suspended Solids	mg/L	80		60	once/quarter	grab
METALS						
Aluminum, Total Recoverable	µg/L	*		*	once/quarter	grab
Antimony, Total Recoverable	µg/L	8643		4300	once/quarter	grab
Arsenic, Total Recoverable	µg/L	33		16	once/quarter	grab
Beryllium, Total Recoverable	µg/L	8		4	once/quarter	grab
Cadmium, Total Recoverable	µg/L	7.8		3.9	once/quarter	grab
Chromium (III), Total Recoverable	µg/L	210		105	once/quarter	grab
Chromium (VI), Dissolved	µg/L	15.2		7.5	once/quarter	grab
Copper, Total Recoverable	µg/L	22.0		11.0	once/quarter	grab
Iron, Total Recoverable	µg/L	1643		819	once/quarter	grab
Lead, Total Recoverable	µg/L	138.7		69.1	once/quarter	grab
Mercury, Total Recoverable	µg/L	0.8		0.4	once/quarter	grab
Nickel, Total Recoverable	µg/L	129		64	once/quarter	grab
Selenium, Total Recoverable	µg/L	8		4	once/quarter	grab
Silver, Total Recoverable	µg/L	8.7		4.3	once/quarter	grab
Thallium, Total Recoverable	µg/L	12.7		6.3	once/quarter	grab
Zinc, Total Recoverable	µg/L	180		90	once/quarter	grab
NUTRIENTS						
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	 3.7 7.5		 1.4 2.9	once/quarter	grab
OTHER						
Benzene	µg/L	*		*	once/quarter	grab
Chloride	mg/L	*		*	once/quarter	grab
Chloride + Sulfate	mg/L	1000		*	once/quarter	grab
Fluoride	mg/L	6.5		3.3	once/quarter	grab
Sulfate	mg/L	*		*	once/quarter	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE NEXT REPORT IS DUE OCTOBER 28, 2019. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

OUTFALL #015 *Process water, stormwater, and groundwater discharges*	**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 **June 18, 2022**. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY◊	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/quarter	24 hr. total
Precipitation[§]	inches	*		*	once/quarter	measure
CONVENTIONAL						
Biochemical Oxygen Demand$_5$	mg/L	*		*	once/quarter	grab
Chemical Oxygen Demand	mg/L	120		90	once/quarter	grab
Oil & Grease	mg/L	15		10	once/quarter	grab
pH [Ω]	SU	6.5 to 9.0		-	once/quarter	grab
Settleable Solids	mL/L/hr	1.5		1.0	once/quarter	grab
Total Suspended Solids	mg/L	80		60	once/quarter	grab
METALS						
Aluminum, Total Recoverable	µg/L	*		*	once/quarter	grab
Antimony, Total Recoverable	µg/L	8643		4300	once/quarter	grab
Arsenic, Total Recoverable	µg/L	33		16	once/quarter	grab
Beryllium, Total Recoverable	µg/L	8		4	once/quarter	grab
Cadmium, Total Recoverable	µg/L	0.6		0.3	once/quarter	grab
Chromium (III), Total Recoverable	µg/L	210		105	once/quarter	grab
Chromium (VI), Dissolved	µg/L	15		7.5	once/quarter	grab
Copper, Total Recoverable	µg/L	22.0		11.0	once/quarter	grab
Iron, Total Recoverable	µg/L	1643		819	once/quarter	grab
Lead, Total Recoverable	µg/L	9.7		4.8	once/quarter	grab
Mercury, Total Recoverable	µg/L	0.8		0.4	once/quarter	grab
Nickel, Total Recoverable	µg/L	129		64	once/quarter	grab
Selenium, Total Recoverable	µg/L	8		4	once/quarter	grab
Silver, Total Recoverable	µg/L	8.7		4.3	once/quarter	grab
Thallium, Total Recoverable	µg/L	12.7		6.3	once/quarter	grab
Zinc, Total Recoverable	µg/L	180		90	once/quarter	grab
NUTRIENTS						
Ammonia as N (April 1 – Sept 30) (Oct 1 – March 31)	mg/L	 3.7 7.5		 1.4 2.9	once/quarter	grab
OTHER						
Benzene	µg/L	*		*	once/quarter	grab
Chloride	mg/L	*		*	once/quarter	grab
Chloride + Sulfate	mg/L	1000		*	once/quarter	grab
Fluoride	mg/L	6.5		3.3	once/quarter	grab
Sulfate	mg/L	*		*	once/quarter	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

* Monitoring requirement only.

∞ All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable precipitation event. If a 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.

§ Maximum recorded quarterly precipitation will be reported on DMR for that quarter. A daily precipitation log will be stored onsite, and available upon request.

Ω The facility will report the minimum and maximum values. pH is not to be averaged.

◊ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS

QUARTER	MONTHS	EFFLUENT PARAMETERS	REPORT IS DUE
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

B. STANDARD CONDITIONS

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

C. SPECIAL CONDITIONS

1. Landfill leachate cannot be discharged under this permit. Stormwater which has come into contact with leachate is considered leachate and cannot be discharged. Leachate, and stormwater which has come into contact with leachate, must be managed in accordance with the provisions contained in the Missouri Solid Waste Management Laws, regulations, and Sanitary Landfill Operating Permit; and Hazardous Waste Program (if applicable).

2. Electronic Discharge Monitoring Report (eDMR) Submission System
   (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
   (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
      (1) Schedule of Compliance Progress Reports;
      (2) Any additional report required by the permit excluding bypass reporting.
      After such a system has been made available by the department, required data shall be directly input into the system by the next report due date.
   (c) Other actions. The following shall be submitted electronically after such a system has been made available by the department:
      (1) General Permit Applications/Notices of Intent to discharge (NOIs);
      (2) Notices of Termination (NOTs);
      (3) No Exposure Certifications (NOEs);
      (4) Low Erosivity Waivers and Other Waivers from Stormwater Controls (LEWs); and
      (5) Bypass reporting.
   (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx.
   (e) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. The department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective.

C. SPECIAL CONDITIONS, CONTINUED

3. The purpose of the Stormwater Pollution Prevention Plan (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 preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.

4. The facility's SIC code(s) is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) hence shall implement a SWPPP which must be prepared and implemented upon permit issuance. The SWPPP must be kept on-site and should not be sent to the department unless specifically requested. The SWPPP must be reviewed and updated every five (5) years or as site conditions change (see Part III: Antidegradation Analysis and SWPPP sections in the fact sheet). The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in February 2009 (www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf). The SWPPP must include:
   (a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
   (b) The SWPPP must include a schedule for 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 must be reported to the regional office within seven (7) days of discovery. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including the general timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. The permittee will work with the regional office to determine the best course of action, including but not limited to temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
      iv. All actions taken to correct the deficiencies shall be included with the written report, including photographs.
      v. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to department and EPA personnel upon request.
   (c) A provision for designating an individual to be responsible for environmental matters.
   (d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.

5. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
   (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of 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 that 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.
   (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 to comply with general water quality criteria, effluent limits, or benchmarks. This could include the use of straw bales, silt fences, or sediment basins, if needed.
   (f) Ensure adequate provisions are provided to prevent surface water intrusion into the storage basin, to divert stormwater runoff around the storage basin, and to protect embankments from erosion.

6. To protect the general criteria found at 10 CSR 20-7.031(4), before releasing water accumulated in secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen. If the presence of odor or sheen is indicated, the water shall be treated using an appropriate method or disposed of in accordance with legally approved methods, such as being sent to a wastewater treatment facility. Following treatment, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A. Records of all testing and treatment of water accumulated in secondary containment shall be stored in the SWPPP to be available on demand to DNR and EPA personnel.

C. SPECIAL CONDITIONS, CONTINUED

7. 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.

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 shall be reopened and modified, or alternatively revoked and reissued:
   (a) To comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) To incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
   (c) To incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.
   (d) If the Department determines that the permittee's discharges cause, have reasonable potential to cause, or are contributing to exceedances of Missouri's Water Quality Standards.

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

10. 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).

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

12. Reporting of Non-Detects
   (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
   (b) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non-Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
   (c) The permittee shall report the "Non-Detect" result using the less than sign and the minimum detection limit (e.g. <10).
   (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
   (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
   (f) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (C).

C. SPECIAL CONDITIONS, CONTINUED

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

14. 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.

15. This permit incorporates the Compliance Schedule found in Appendix 1 of this permit. The permittee shall comply with the Compliance Schedule as detailed in Appendix 1.

D. SCHEDULE OF COMPLIANCE

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

1. Within six months of the effective date of this permit, the permittee shall report progress made in attaining compliance with the final effluent limits at outfall #015.

2. The permittee shall submit interim progress reports detailing progress made in attaining compliance with the final effluent limits every 12 months from effective date. The first report is due September 1, 2018.

3. By June 18, 2022, the permittee shall attain compliance with the final effluent limits at outfall #015 for cadmium, total recoverable; chromium VI, dissolved; and lead, total recoverable.

   This permit also incorporates the Compliance Schedule attached as Appendix 1 of this permit. Quarterly Progress Reports shall be submitted to the St. Louis Region prior to the 28th of April, July, October, and January of each year until proposed actions to achieve the remedy are completed per the Compliance Schedule. Upon completion of the projects, a quarters worth of monthly sampling data that does not exceed any effluent limits may be submitted to the Department as demonstration of project completion. A permit modification shall be submitted at least 180 days prior to the expiration of the compliance schedule to extend the compliance date, if it is determined that the schedule is to be extended by the St. Louis Regional Office. The first Quarterly Progress Report is due on October 28, 2019.

Please submit progress reports via the electronic reporting system, except the Quarterly Progress Report, which will be submitted to the St. Louis Regional Office.

Appendix 1

COMPLIANCE SCHEDULE
MO0097543
Champ Landfill Company, LLC
St. Louis County, Missouri
June 17, 2019

The Missouri Department of Natural Resources (Department) St. Louis Regional Office (SLRO) and Champ Landfill Company, LLC agree to the following Compliance Schedule to address significant noncompliance with the Missouri Clean Water Law, the Missouri Clean Water Commission Regulations, and Missouri State Operating Permit MO-0097543. The original wording of the January 8, 2019 Letter of Warning (LOW) and Report of Inspection, Violations and Required Actions, item #1, described the following violation:

Failed to comply with the effluent limits contained in Section A of Missouri State Operating Permit (MSOP) MO0097543 [Sections 644.051.1(3) and 644.076.1, RSMo, and 10 CSR 20-6.010(8)(A)4]. Most recent effluent exceedances occurred during the 1st quarter 2019 reporting period for Outfall #011 (Total Suspended Solids, hexavalent chromium, and selenium) and Outfall #015 (Total Suspended Solids, Oil & Grease, cadmium, iron, and selenium).

Schedule:

A. The terms of this agreement shall begin on **June 17, 2019**.

B. If additional time is necessary, a request for an extension of a specific deadline may be submitted to the **Missouri Department of Natural Resources, St. Louis Regional Office, 7545 South Lindbergh Blvd, St. Louis, MO 63125** (hereinafter referred to as "Region") for review. The request should include valid reasons, such as construction scheduling, etc.

C. Failure to achieve compliance with your permit conditions will result in elevated enforcement action.

D. Within **3 YEARS, June 18, 2022,** physical site modifications as proposed by Champ Landfill Company, LLC should be completed. These proposed modifications for the Outfall #011 drainage area include the construction of an additional stormwater pond for the concrete plant, modification to the existing Sediment Pond #5, and the installation of discharge piping from each pond. Proposed changes to the Outfall #015 area include the relocation and addition of a new stormwater pond and Outfall #016 on the northern end of the property; expansion of the existing Sediment Pond #1; and installation of a pump and discharge pipe system to allow for an alternating discharge.

E. Submit Quarterly Progress Reports to the Region prior to the 28th of April, July, October, and January of each year until proposed actions to achieve the remedy are completed. Upon completion of the projects, a quarters worth of monthly sampling data that does not exceed any effluent limits may be submitted to the Department as demonstration of project completion.

The following paragraphs detail what is to be changed at the site:

Outfall #011 Drainage Area

Sampling at Outfall #011 has resulted in selenium and hexavalent chromium concentrations exceeding limits. The approach to compliance for Outfall #011 will begin with the following schedule for action items and physical changes at the site:

1. Construct a new stormwater pond that captures stormwater and process water generated by the concrete plant. The area where the new pond will be constructed is currently leased to the quarry operation, so a modification to that lease will need to be implemented. In addition to the new pond for the concrete plant, a significant underground electric service will need to be relocated.

2. Expand Sedimentation Pond #5 and modify the grading so that only stormwater from the South Pit of Champ is detained by this pond.

3. Install outlet piping from each pond to discharge directly to Fee Fee Creek instead of routing through Detention Pond #1.

Approximately 180 days before the proposed site changes are complete, Champ Company, LLC will request to modify its permit to eliminate the outfalls that apply only to the concrete business and quarry business. Champ will request a modification to the permit for a new outfall at the end of the pipe discharging water from Sedimentation Pond #5 into Fee Fee Creek and elimination of Outfall #011 from the Champ permit.

It is anticipated that the other impacted onsite businesses will also submit permit applications as follows:

4. The concrete business will apply for a permit for its own outfall at the end of the pipe discharging water from its new pond into Fee Fee Creek.

5. The quarry business will incorporate the discharge from Outfall #011 into its permit. The Quarry's industrial activity will also have its own permit for discharge.

However, if elimination of the discharge into Detention Pond #1 from the concrete business has positive impacts on concentrations and Champ is able to meet permit limits, Champ may elect to continue use of Detention Pond #1 and Outfall #011 in conjunction with the quarry business.

Outfall #015 Drainage Area

Sampling at Outfall #015 has resulted in selenium and iron concentrations above the permitted limits. The approach to compliance for Outfall #015 is to implement a system where discharge will not be permitted as continuous and modify the permit limits to be similar to the ones for Outfall #011.

In order to ensure that discharge will not be continuous to Outfall #015 (continuous is generally defined as "four consecutive days"), additional storage capacity will need to be developed. A new pond and Outfall #016 will be constructed on the north end of the facility. Water that is pumped from the North Pit area will alternate discharging between Outfall #015 and the newly proposed Outfall #016. A preliminary schematic for these proposed changes is provided on Figure 3 in Champ's response dated February 7, 2019. The action items are summarized below.

1. Add a new stormwater pond on the north end of the property that discharges to a new outfall (referred to in this document as Outfall #016; in the same location as previous Outfall #016 at the site). In order to construct the additional pond on the north end of the facility, Champ will need to construct an access road.

2. Relocate and increase the size of Sedimentation Pond #1 when the next phase of rock is quarried out for landfill construction. Significant excavation of rock is necessary to construct the expanded Sedimentation Pond #1.

3. Install a pump and discharge pipe system that has valves to switch the discharge between Outfall #015 and Outfall #016.

4. Approximately 180 days before the proposed site changes are complete, submit a permit modification application for MSOP MO0097543 to incorporate Outfall #016 into the permit along with operational conditions and documentation requirements related to alternating the discharge. Request the permit incorporates new limits at Outfalls #015 and#016 to reflect acute toxicity limits similar to those at Outfall #011.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATEMENT OF BASIS
MO-0097543
CHAMP LANDFILL, LLC

This Statement of Basis (Statement) gives pertinent information regarding modification(s) to the above listed operating permit. A Statement is not an enforceable part of a Missouri State Operating Permit.

Part I – Facility Information

Facility Type: Categorical Industrial < 1 MGD
Facility SIC Code(s): #4953
Facility Description: Champ Landfill is an active sanitary and industrial waste landfill. The site also contains an active quarry, compost area, concrete plant, and asphalt plant.

Part II – Modification Rationale

This operating permit is hereby modified to reflect a change in ownership, name, and the addition of a three year Compliance Schedule. The schedule is attached to the permit as Appendix 1. The Compliance Schedule was determined to be necessary by SLRO for the construction of upgrades to meet water quality limits at outfall #015; additionally, the facility has struggled to meet limits at outfall #011, which is also to be addressed by site upgrades. The landfill entered this agreement with the St. Louis Regional Office after meeting with the Department and outlining their plans for compliance. The original schedule of compliance for the water quality limits at outfall #015 for cadmium, total recoverable; chromium VI, dissolved; and lead, total recoverable in this permit has been extended to match the new Compliance Schedule as agreed upon with St. Louis Regional Office. The Compliance Schedule includes language allowing for extensions to the time granted to complete construction activities. If the landfill should need to extend the Compliance Schedule, they must submit an application for modification of this permit 180 days prior to the current end of the schedule of compliance to ensure the permit can be modified to match the changed Compliance Schedule.

No other changes were made to the permit at this time. The previous fact sheet is retained for informational purposes.

Part III – Administrative Requirements

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

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing. The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

☒ - The Public Notice period for this operating permit was from 6/28/2019-7/29/2019; no comments were received.

DATE OF FACT SHEET: 07/30/2019

COMPLETED BY:
AMBERLY SCHULZ, ENVIRONMENTAL SPECIALIST III
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION – STORMWATER AND CERTIFICATION UNIT
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0097543
IESI MO CHAMP LANDFILL

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of 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)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: Categorical Industrial
Facility SIC Codes: 4953, 1422, 2875, 2951, 3273
Application Date: 08/01/2013; revised application received 06/23/2016, updated info received 03/13/2017
Modification Date: 05/22/2012
Expiration Date: 01/29/2014
Last Inspection: No inspection by Water Protection Program available.

FACILITY DESCRIPTION:
IESI MO Champ (Champ) is an active sanitary and industrial waste landfill. The approximate total waste accepted daily by Champ is 4,200 tons. The facility is operated in compliance with 10 CSR 80-3.010 (8), which requires the on-site drainage structures be designed to prevent flow onto the active portion of the sanitary landfill during peak discharge from at least a 25 year storm. Any stormwater which contacts the active working face is considered leachate and is handled in a no-discharge manner. Champ uses traditional daily cover or alternative daily covers which include petroleum contaminated soils, posi-shell covers, or tarps. All leachate is ultimately discharged to Metropolitan St. Louis Sewer District (MSD).

A compost area is located on the central east side of the North Pit. Champ accepts special asbestos waste which is disposed of in a separate area in the southern section of the west slope of the South Pit. WWTP sludge is accepted as special waste from several plants around the St. Louis area. Treated medical waste is also accepted for disposal.

Portions of the Champ property are leased to Fred Weber, who operates a limestone quarry onsite. Fred Weber maintains its own permit for discharge, MOG491341; however, Champ outfall #015 accepts groundwater mixed with stormwater pumped from the quarry, with Champ solely responsible for compliance at this outfall. Breckinridge Concrete Plant and North Stone Asphalt Plant operate in the watershed of outfall #011. An agreement is in place between Champ and these two industries which acknowledges Champ as the sole responsible party for discharge at this outfall.

According to a DNR Solid Waste inspection dated 05/31/2016, there are 10 leachate sumps in the south pit (8 are operating at any one time) and 3 in the north pit; leachate is pumped to a weir building located west of the south pit prior to being directly discharged to MSD. Approximately 711,000 gallons were discharged to MSD in April 2016. The average leachate discharge to MSD is 100,000 gallons per day.

Outfalls #001-#010 were eliminated in previous permit renewals. The landfill was initially permitted with outfalls #001-#003 in 1992. The 1996 renewal added outfalls #004-#006. The subsequent renewal in 2002 reported outfalls #004-#006 were transferred to a general permit held by the rock quarry, leaving only outfalls #001-#003 in use by the facility. The 2009 renewal included outfalls #011-#019. Outfall #012 was terminated after flow was redirected to outfall #011. Outfalls #013 and #014 are eliminated in this renewal after being transferred to Fred Weber, Inc. under a general permit. Outfalls #017 and #018 were eliminated through a

modification to the prior permit after being separated from landfill stormwater flows by berms. Outfalls #016 and #019 are eliminated in this renewal.

PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW (MGD)	DESIGN FLOW (MGD)	TREATMENT LEVEL	EFFLUENT TYPE
#011	dependent on precipitation	not provided	Primary settling, BMPs	Landfill stormwater, process wastewater
#015	dependent on precipitation	not provided	Primary settling, BMPs.	Landfill stormwater, process wastewater, groundwater

FACILITY PERFORMANCE HISTORY & COMMENTS:
The electronic discharge monitoring reports were reviewed for the last five years. Reported limit exceedances for outfall #011were chromium VI, pH, and selenium. Reported limit exceedances at outfall #015 were COD, iron, selenium, settleable solids, and TSS. DMRs submitted on 4/5/16 indicated an exceedance of the permit limit for pH at outfall 11; in response to this exceedance, the silt ponds onsite were cleaned out and re-piping was done to ensure that all storm water was draining into the ponds. DMRs submitted on 5/20/16, 7/26/16, 9/19/16, 9/20/16, and 12/8/16 indicated 10 exceedances of permit limits. Following identification of the exceedances, onsite landfill and third-party industrial operations were thoroughly inspected, an open water hydrant was discovered and closed/locked, all storm water ponds were cleaned with new rock dams added, and entrances to many of the storm water ponds were surrounded with physical barriers wrapped in filter media.

Champ has not been inspected by the Water Protection Program. The last Solid Waste inspection occurred on 04/24/2017. The facility was found to be not in compliance with MO solid waste law at that time. Two unsatisfactory items were observed, including allowing methane gas to migrate out of the landfill and two minor leachate seeps located adjacent to a storm water area. Champ Landfill continues to work with the Solid Waste Management Program to address the methane migration issue onsite. The areas described in the inspection with leachate seeps were immediately re-covered and re-graded. In 2016, elevated levels of hydrogen sulfide were detected by the Metropolitan Sewer District (MSD) in the sewer lines pumping leachate from the landfill. Champ installed a leachate pretreatment system near the existing weir structure in October 2016. The leachate pretreatment system consists of equalization, aeration, and ferric chloride dosing prior to discharge to the MSD sewer network. Leachate management is regulated by DNR Solid Waste Division.

Annual sampling is removed from this permit and replaced with quarterly monitoring. Quarterly monitoring is more appropriate for a large and complex site such as this with a combined and variable discharge.

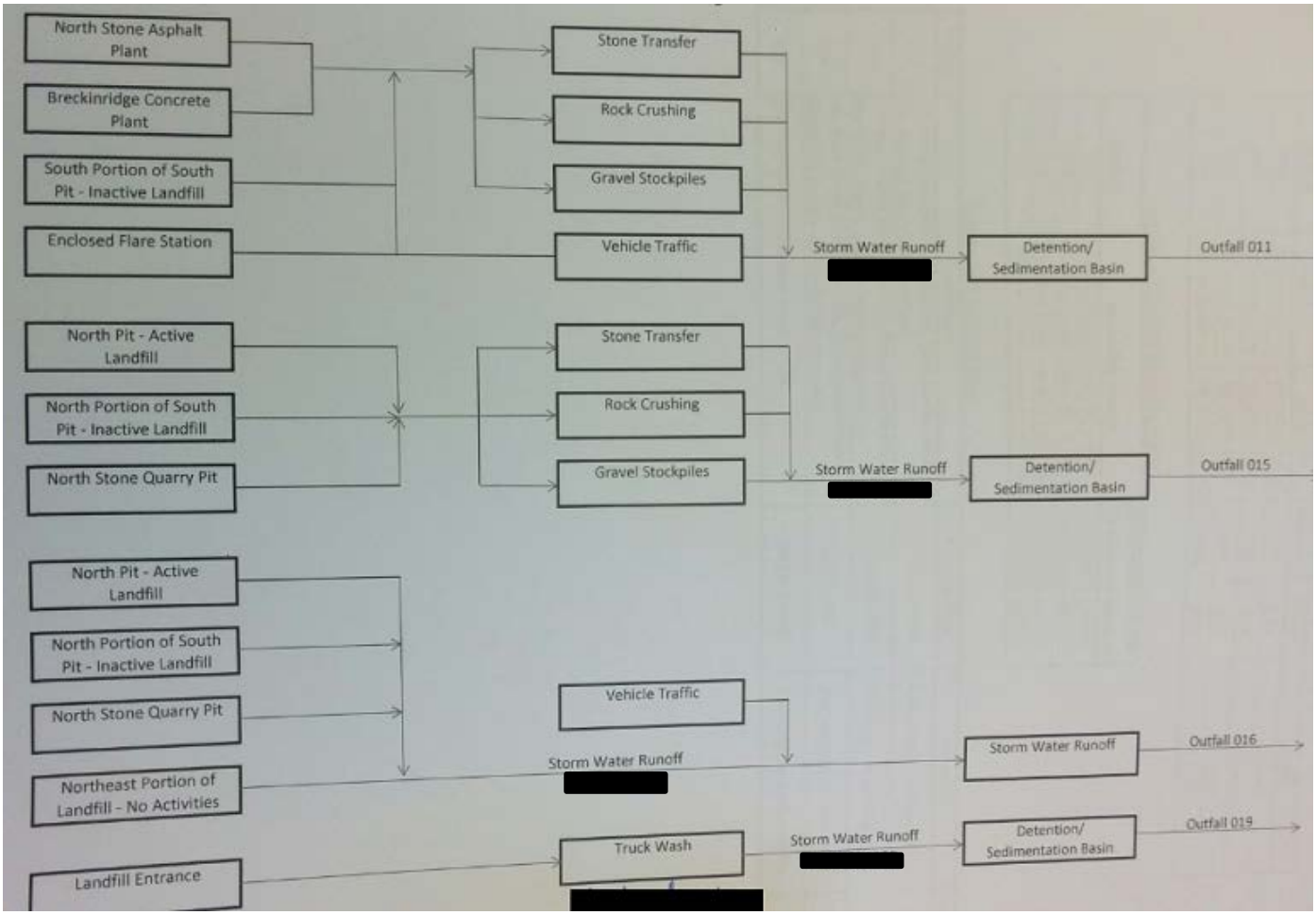
Leachate must be handled in a manner where discharge is not allowed and in accordance with Hazardous Waste Program (if applicable) and Solid Waste Management Program requirements.

FACILITY MAP:

--CURRENT OUTFALLS

--PREVIOUSLY PERMITTED OUTFALLS, TO BE PERMITTED UNDER FRED WEBER, MO-G490185

WATER BALANCE DIAGRAM:



Part II. RECEIVING STREAM INFORMATION

RECEIVING WATER BODY'S WATER QUALITY:
The receiving streams Tributary to Fee Fee Creek (New), Fee Fee Creek (New) (P) 1704, and 8-20-13 MUDD V 1.0 (C) 3960 have no concurrent water quality data available. Fee Fee Creek (New) (P) 1704 is found on the 2012 303(d) list for chlorides and *E. coli* contamination. A stream use attainment assessment was conducted at the mouth of Fee Fee Creek (New) on 07/09/2015. It found the AQL, SCR, and WBC-B uses were not supported. The LWW use was found to be fully supported. 8-20-13 MUDD V 1.0 (C) (3960) is now classified whereas it was not classified in the previous permit, as EPA has approved the Department's new stream classifications. No further relevant water quality information was found by the permit writer.

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; Fee Fee Creek (New) is listed on the 2012 Missouri 303(d) list for chloride and E. coli.
- ✓ It is unknown at this time if the facility is a source of chloride or is considered to contribute to the impairment. Once a TMDL is developed, the permit may be modified to include WLAs from the TMDL. The facility is unlikely to contribute to the E. coli impairment.

TOTAL MAXIMUM DAILY LOAD (TMDL):
A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected; 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/

- ✓ Not applicable; this facility is not associated with a TMDL.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

✓ As per Missouri's Effluent Regulations [10 CSR 20-7.015(1)(B)], the waters of the state are divided into the following seven categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's effluent limitation table and further discussed in the derivation & discussion of limits section.

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

RECEIVING STREAMS TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	DISTANCE TO SEGMENT (MILES)	12-DIGIT HUC
#011	Fee Fee Creek (New)	P	1704	AQL, HHP, IRR, LWW, SCR, WBC-B	0.0	010300200-0703 Creve Coeur Creek
#015	Tributary to Fee Fee Creek (New)	n/a	n/a	GEN	0.2	
	Fee Fee Creek (New)	P	1704	AQL, HHP, IRR, LWW, SCR, WBC-B		

n/a not applicable
WBID = Waterbody IDentification: Missouri Use Designation Dataset 8-20-13 MUDD V1.0 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
* As per 10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the receiving streams table, above:
10 CSR 20-7.031(1)(C)1.:
AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses AQL effluent limitations in 10 CSR 20-7.031 Table A for all habitat designations unless otherwise specified.)
10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A = Whole body contact recreation supporting swimming uses and has public access;
WBC-B = Whole body contact recreation supporting swimming;
SCR = Secondary Contact Recreation (like fishing, wading, and boating).
10 CSR 20-7.031(1)(C)3. to 7.:
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish;
IRR = Irrigation for use on crops utilized for human or livestock consumption;
LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);
DWS = Drinking Water Supply;
IND = Industrial water supply
10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A currently does not have corresponding habitat use criteria for these defined uses)
WSA = Storm- and flood-water storage and attenuation; WHP = Habitat for resident and migratory wildlife species;
WRC = Recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = Hydrologic cycle maintenance.
10 CSR 20-7.031(6): GRW = Groundwater

RECEIVING STREAM LOW-FLOW VALUES:

OUTFALL	RECEIVING STREAM (C, P)	LOW-FLOW VALUES (CFS)		
		1Q10	7Q10	30Q10*
#011	Fee Fee Creek (New) (P)	0.1	0.1	1.0
#015	Tributary to Fee Fee Creek (New)	0.0	0.0	0.0

*Applies to ammonia calculations only.

ADDITIONAL MIXING CONSIDERATIONS:
For Tributary to Fee Fee Creek (New): Mixing zone: not allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)]. Zone of initial dilution: not allowed [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

MIXING CONSIDERATIONS TABLE: Defaults For Class P –Fee Fee Creek (New) (Outfall #011)
Below is the default mixing table for Class P streams; however, in this permit, mixing was not utilized at outfall #011 due to the fact the receiving stream's assimilative capacity was lower than the design flow of effluent entering the stream.

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

*Applies to ammonia calculations only.

RECEIVING STREAM MONITORING REQUIREMENTS:
No receiving water monitoring requirements are recommended at this time.

Part III. RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

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

- ✓ Not applicable; the facility does not discharge to a losing stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

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

- ✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
  - ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
    - Five years of DMR data were available to the permit writer and support removing limits from outfalls #011 & #015 for BOD.
    - Five years of DMR data were available to the permit writer and support removing cobalt as a parameter from outfalls #011 and #015. Cobalt is not present in levels of concern in the discharge. Additionally, cobalt is reported not present on the application materials received 06/23/2016 for outfall #011, and at not at a level of concern for outfall #015.
    - Temperature is removed as a parameter as it isn't necessary to measure the temperature of the effluent at this facility. The water is pumped from a settling basin exposed to the outside temperature, so the measured temperature only reflects the environment.
  - ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
    - Limits are raised on antimony, copper, silver, thallium, and zinc at outfalls #011 and #015. Limits were calculated using a dated water quality standard and/or calculation method, and have been recalculated to reflect current water quality standards and permitting practices. Limits are raised on arsenic, iron, and selenium at outfalls #011 and #015, reflecting a minor change in calculations and rounding. Limits are raised on cadmium, chromium (III), lead, mercury, and nickel on outfall #011 due to using an updated water quality standard to calculate the limit. In addition, the permittee disclosed to the permit writer the discharges from outfall #011 are acute in nature, therefore only the acute water quality standard was considered in setting limits at this outfall.

- The iron limit on outfall #011 is raised to 4000 µg/L, reflecting the disclosure from the permittee that discharges from this outfall are of an acute nature. After review of available data and studies, the permit writer uses best professional judgment to determine an acute discharge of 4000 µg/L would not cause a water quality concern. Additionally, the discharge has no reasonable potential to exceed the chronic water quality standard of 1000 µg/L over 4 days, as the discharges are intermittent in nature.
- The previous permit contained a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4); however, there was no determination as to whether the discharges have reasonable potential to cause or contribute to excursion of those general water quality standards in the previous permit. Federal regulations 40 CFR 122.44(d)(1)(iii) requires that in instances were reasonable potential (RP) to cause or contribute to an exceedance of a water quality standard exists, a numeric limitation must be included in the permit. Rather than conducting the appropriate RP determination and establishing numeric effluent limitations for specific pollutant parameters, the previous permit simply placed the prohibitions in the permit. These conditions were removed from the permit. Appropriate reasonable potential determinations were conducted for each general criterion listed in 10 CSR 20-7.031(4) and effluent limitations were placed in the permit for those general criteria where it was determined the discharge had reasonable potential to cause or contribute to excursions of the general criteria. Specific effluent limitations were not included for those general criteria where it was determined that the discharges will not cause or contribute to excursions of general criteria. Removal of the prohibitions does not reduce the protections of the permit or allow for impairment of the receiving stream. The permit maintains sufficient effluent limitations, monitoring requirements and best management practices to protect water quality.
- Monthly averages were not implemented for outfalls #011 in this permit as the discharge consists of only precipitation based discharges which are not continuous pursuant to 40 CFR 122.45(d). Further, average monthly limitations are impracticable measures of non-continuous discharges because they vary widely in frequency, magnitude, and duration. This permit applies only acute short-term or daily maximum measures which represent discharges which are acute and sporadic in nature. Discharges of effluent from this outfall rarely persist for long durations, making them impracticable to assess using measures with long term exposures or averaging periods. Last, the instream water quality target remains unchanged and the conditions of this permit are protective of both narrative and numeric water quality criteria.

ANTIDEGRADATION REVIEW:
For process water discharge with new, altered, or expanding discharges, 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; new, altered, or expanded process water discharge. The anti-degradation unit assessed discharge from this facility, and determined a full anti-degradation analysis is not required.

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

BENCHMARKS:
When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. 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 limitations of the permit.

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 determined by the site specific conditions including the receiving water's current quality. While inspections of the stormwater BMPs occur monthly, facilities with no compliance issues are usually expected to sample stormwater quarterly.

Numeric benchmark values are based on water quality standards or other stormwater permits including guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP). 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. 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.

✓ Not applicable; this facility does not have stormwater-only outfalls with benchmark constraints

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). 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. Additional information: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74 (WQ422 through WQ449).

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

COMPLIANCE AND ENFORCEMENT:

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

✓ Not applicable; the permittee/facility is not currently under Water Protection Program enforcement action. However, this facility is in enforcement with the Solid Waste Management Program. Remediation of issues onsite for compliance purposes is ongoing.

GROUNDWATER MONITORING:

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

✓ This facility is monitoring the groundwater at the site under 10 CSR 80-3.010 (11). The data obtained from this monitoring is submitted to DNR Solid Waste Management Program. This facility is not required to submit groundwater monitoring data to WPP at this time.

INDUSTRIAL SLUDGE:

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

✓ Permittee is not authorized to land apply industrial sludge. Leachate is to be handled in a no discharge manner. It is currently sent to St. Louis MSD.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. If the permit writer determines any give pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant [40 CFR Part 122.44(d)(1)(iii)].

✓ Not Applicable; an RPA was not conducted for non-stormwater outfalls at this time due to limited availability of data.

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. SOCs are allowed under 40 CFR 122.47 providing certain conditions are met.

✓ Applicable; a two year schedule of compliance is given to meet new limits on cadmium, total recoverable and lead, total recoverable at outfall #015. 2 years will allow the permittee to adjust BMPs as needed over all seasons to meet the new limits.

SPILL REPORTING:

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

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*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering 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. 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)]. Failure to implement and maintain the chosen BMP is a permit violation. For further guidance, consult the antidegradation implementation procedure (http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf).

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

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

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

Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

✓ Not applicable; the operating 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 provide adequate protection for the receiving waters, then the other must be used.

✓ Applicable; wasteload allocations were calculated where relevant using water quality criteria or water quality model results and by applying the dilution equation below:

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

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

- Acute wasteload allocations (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 (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).
- Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's *Technical Support Document For Water Quality-based Toxics Control* or TSD EPA/505/2-90-001; March 1991.
- Number of Samples "n": In accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For total ammonia as nitrogen, "n = 30" is used.

WLA MODELING:

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 STANDARDS:

Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving stream water. Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures 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.

✓ Not applicable; at this time, the permittee is not required to conduct WET testing for this facility.

Part IV. EFFLUENT LIMITS DETERMINATION

OUTFALLS #011, #015– PROCESS WASTEWATER/GROUNDWATER/STORMWATER OUTFALLS

Effluent limitations derived and established in the below effluent limitations table are based on current operations of the facility. Effluent means both process water and stormwater. Any flow through the outfall is considered a discharge and must be sampled at least quarterly and reported as provided below. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required under 40 CFR 122.45(d)(1) for continuous discharges not from a POTW. Outfall #011 is not considered to have a continuous discharge due to discharges being precipitation based and sporadic.

EFFLUENT LIMITATION GUIDELINE 40 CFR PART 445 LANDFILL CATEGORY

The EPA has developed effluent limitation guidelines for wastewater discharges associated with the operation and maintenance of landfills regulated under RCRA Subtitle D, non-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. All landfills in the State of Missouri are required under Solid Waste law [10 CSR 80-3.010(8)] to prevent stormwater flow onto the active portion of the sanitary landfill during peak discharge from at least a 25 year, 24 hour storm, and should therefore not release contaminated stormwater due to contact with the working face. Stormwater impacted by leachate is considered wastewater under 40 CFR 445.2, and must be treated in a no-discharge manner under this permit. Discharge of leachate contaminated stormwater, or any other landfill wastewater, is a violation of this permit. The ELG limitations provided below are for informational purposes only, and are not applied in this permit.

40 CFR Part 445 ELG Limitations		
Regulated Parameter	Daily Maximum (mg/L)	Monthly Average (mg/L)
BOD_5	140	37
TSS	88	27
Ammonia as N	10	4.9
α – Terpineol	0.033	0.016
Benzoic Acid	0.12	0.071
p-Cresol	0.025	0.014
Phenol	0.026	0.015
Zinc	0.20	0.11
pH	6.0-9.0 SU	-

EFFLUENT LIMITATION GUIDELINE 40 CFR PART 436 MINERAL MINING AND PROCESSING CATEGORY (OUTFALLS #011 AND 015)

The EPA has developed effluent limitation guidelines for wastewater discharges associated with the operation and maintenance of mineral mines. The ELG is divided into several subparts. The "Crushed Stone Subcategory" (subpart B) is applicable to outfall #011 and #015. The wastewater flows which are covered by this rule include mine dewatering, and discharges of process generated waste water pollutants from facilities that recycle waste water for use in processing. The ELG requirements are less stringent than Missouri state water quality standards; therefore, the water quality standard of 6.5-9.0 SU will be applied.

40 CFR Part 436 ELG Limitations		
Regulated Parameter	Minimum (SU)	Maximum (SU)
pH	6.0	9.0

EFFLUENT LIMITATION GUIDELINE 40 CFR PART 443 PAVING AND ROOFING MATERIALS CATEGORY (OUTFALL #011)

The EPA has developed effluent limitation guidelines for wastewater discharges associated with the operation and maintenance of asphalt producing plants. The ELG is divided into several subparts. The "Asphalt Concrete Subcategory" (subpart B) is applicable to outfall #011. The wastewater flows which are covered by this rule include any process wastewater, which is defined as any water which, during the manufacturing process, comes into direct contact with any raw material, intermediate product, by-product, or product used in or resulting from the production of paving asphalt concrete. Wastewaters created from this industry, under the ELG, are not authorized for discharge to waters of the state; therefore, this permit does not authorize wastewater discharge from this industry. Stormwater which comes into contact with asphalt production wastewater is considered wastewater and is not authorized for discharge under this permit.

40 CFR Part 443 ELG Limitations	
All Asphalt Plant Wastewater	No Discharge Authorized

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants which have been determined to cause, have the reasonable potential to cause, or to contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. The previous permit included the narrative criteria as specific prohibitions placed upon the discharge. These prohibitions were included in the permit absent any discussion of the discharge's reasonable potential to cause or contribute to an excursion of the criterion. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether the discharge has reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). In instances where reasonable potential exists, the permit includes numeric limitations to address the reasonable potential. In instances where reasonable potential does not exist the permit includes monitoring of the discharges potential to impact the receiving stream's narrative criteria. Finally, all of the previous permit narrative criteria prohibitions have been removed from the permit given they are addressed by numeric limits where reasonable potential exists. It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission.

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
- For all outfalls, there is no RP for putrescent bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates putrescent wastewater would be discharged from the facility. Solid waste regulations found at 10 CSR 80-3.010(8)(B) require operation of the landfill in such a manner as to prevent flow onto the active portion of the sanitary landfill during peak discharge from at least a 25 year storm. In addition, 10 CSR 80-3.010(8)(C) requires water which has contacted solid waste at the working face to be treated as leachate and sent to the leachate disposal system.
- There is reasonable potential for the formation of unsightly or harmful bottom deposits at outfall #015, as demonstrated by DMR data for this outfall. Limitations are retained on settleable solids and total suspended solids at this outfall to protect this general criterion. DMR data shows no reasonable potential for the formation of unsightly or harmful bottom deposits at outfall #011.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.
- For all outfalls, there is no RP for oil in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal or during prior sampling for DMR requirements for these outfalls indicates oil will be present in sufficient amounts to impair beneficial uses.
- For all outfalls, there is no RP for scum and floating debris in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates scum and floating debris will be present in sufficient amounts to impair beneficial uses. Solid waste regulations found at 10 CSR 80-3.010(8)(B) require operation of the landfill in such a manner as to prevent flow onto the active portion of the sanitary landfill during peak discharge from at least a 25 year storm. In addition, 10 CSR 80-3.010(8)(C) requires water which has contacted solid waste at the working face to be treated as leachate and sent to the leachate disposal system. These regulations mean no RP for solid waste to contact effluent which is discharged to the receiving stream.

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
- There is reasonable potential for the formation of unsightly color or turbidity at outfall #015, as demonstrated by DMR data for this outfall. Limitations are retained on settleable solids and total suspended solids at this outfall to protect this general criterion. DMR data shows no reasonable potential unsightly color or turbidity at outfall #011.
- For all outfalls, there is no RP for offensive odor in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates offensive odor will be present in sufficient amounts to impair beneficial uses. Solid waste regulations found at 10 CSR 80-3.010(8)(B) require operation of the landfill in such a manner as to prevent flow onto the active portion of the sanitary landfill during peak discharge from at least a 25 year storm. In addition, 10 CSR 80-3.010(8)(C) requires water which has contacted solid waste at the working face to be treated as leachate and sent to the leachate disposal system. These regulations mean no RP for solid waste to contact effluent which is discharged to the receiving stream.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.
- The permit writer considered specific toxic pollutants when writing this permit. Numeric effluent limitations are included for those pollutants that could be discharged in toxic amounts. These effluent limitations are protective of human health, animals, and aquatic life.

(E) There shall be no significant human health hazard from incidental contact with the water.
- Much like the condition above, the permit writer has considered specific toxic pollutants, including those pollutants that could cause human health hazards. The discharge is limited by numeric effluent limitations for those conditions that could result in human health hazards.

(F) There shall be no acute toxicity to livestock or wildlife watering.
- The permit writer has considered specific toxic pollutants, including those pollutants that could cause acute toxicity to livestock or wildlife watering. The discharge is limited by numeric effluent limitations for those conditions that could result in toxicity to livestock or wildlife.

(G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.
- For all outfalls, there is no RP for physical changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates physical changes that would impair the natural biological community.
- For all outfalls, there is no RP for hydrologic changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates hydrologic changes that would impair the natural biological community. The permittee utilizes settling basins which mitigate flow and lessen the impact of discharge events on the hydrology of the receiving streams.
- It has previously been demonstrated that any chemical changes are covered by the specific numeric effluent limitations established in the permit.

(H) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
- There is no reasonable potential for the wastes listed above to be found in the receiving stream at any of the outfalls at this facility. 10 CSR 80-3.010(16)(A)-(C) require litter and solid wastes be controlled on the site for aesthetic purposes, preventing it from entering the stream. In addition, it requires that salvaged materials be removed from the landfill daily or stored in aesthetically acceptable containers or enclosures.

EFFLUENT LIMITATIONS TABLE, OUTFALL #011:

PARAMETERS OUTFALL #011	UNIT	BASIS FOR LIMITS	DAILY MAX	MONTHLY AVG	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL								
FLOW	MGD	1	*		SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR TOT
PRECIPITATION	INCHES	6	*		SAME	ONCE/QUARTER	ONCE/QUARTER	MEASURE
TEMPERATURE	REMOVED FROM THIS PERMIT							
CONVENTIONAL								
BOD_5	MG/L	6	*		60/45	ONCE/QUARTER	ONCE/QUARTER	GRAB
COD	MG/L	6	120		120/90	ONCE/QUARTER	ONCE/QUARTER	GRAB
CONDUCTIVITY	REMOVED FROM THIS PERMIT							
OIL & GREASE	MG/L	1, 3	15		15/10	ONCE/QUARTER	ONCE/QUARTER	GRAB
pH ǂ	SU	1, 3	6.5 TO 9.0		SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SETTLEABLE SOLIDS	ML/L/HR	6	1.5		1.5/1.0	ONCE/QUARTER	ONCE/QUARTER	GRAB
TOTAL DISSOLVED SOLIDS	REMOVED FROM THIS PERMIT							
TSS	MG/L	6	80		80/60	ONCE/QUARTER	ONCE/QUARTER	GRAB
METALS								
ALUMINUM, TOTAL RECOV.	µg/L	6	*		NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
ANTIMONY, TOTAL RECOVER.	µg/L	3,6	8643		7200/3600	ONCE/QUARTER	ONCE/QUARTER	GRAB
ARSENIC, TOTAL RECOVERABLE	µg/L	3,6	33		32.2/16.5	ONCE/QUARTER	ONCE/QUARTER	GRAB
BERYLLIUM, TOTAL RECOVER.	µg/L	3,6	8		8.1/4.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
CADMIUM, TOTAL RECOVER.	µg/L	3,6	8.2		7.8/3.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHROMIUM (III), TOTAL RECOV.	µg/L	3,6	2677		2508.5/1250.2	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHROMIUM (VI), DISSOLVED	µg/L	3, 6	15		15.2/7.6	ONCE/QUARTER	ONCE/QUARTER	GRAB
COBALT, TOTAL RECOVERABLE	REMOVED FROM THIS PERMIT							
COPPER, TOTAL RECOVER.	µg/L	3, 6	22.0		20.8/10.4	ONCE/QUARTER	ONCE/QUARTER	GRAB
IRON, TOTAL RECOVERABLE	µg/L	3, 6	4000		1639/816.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
LEAD, TOTAL RECOVERABLE	µg/L	3,6	151		138.7/69.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
MERCURY, TOTAL RECOVERABLE	µg/L	3,6	2.4		2.8/1.4	ONCE/QUARTER	ONCE/QUARTER	GRAB
NICKEL, TOTAL RECOVERABLE	µg/L	3, 6	706		660.2/329.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
SELENIUM, TOTAL RECOV.	µg/L	3, 6	8		8.0/4.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
SILVER, TOTAL RECOVER.	µg/L	3, 6	8.7		7.8/3.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
THALLIUM, TOTAL RECOVER.	µg/L	3,6	12.7		10.3/5.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
ZINC, TOTAL RECOVERABLE	µg/L	3, 6	180		168.6/84.0	ONCE/QUARTER	ONCE/QUARTER	GRAB
NUTRIENTS								
AMMONIA AS N (APR – SEPT 30)	MG/L	2, 3, 5	3.7		3.7/1.4	ONCE/QUARTER	ONCE/QUARTER	GRAB
AMMONIA AS N (OCT -MAR 31)	MG/L	2,6	7.5		7.5/2.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER								
BENZENE	µg/L	6	*		NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE	mg/L	6	*		NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE + SULFATE	mg/L	6	1000		1000/*	ONCE/QUARTER	ONCE/QUARTER	GRAB
FLUORIDE	mg/L	6	6.5		6.5/3.3	ONCE/QUARTER	ONCE/QUARTER	GRAB
SULFATE	mg/L	6	*		NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
TPH	REMOVED FROM THIS PERMIT							

* - Monitoring requirement only
ǂ The facility will report the minimum and maximum pH values; pH is not to be averaged.
NEW - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

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

EFFLUENT LIMITATIONS TABLE, OUTFALL #015:

PARAMETERS OUTFALL #015	UNIT	BASIS FOR LIMITS	DAILY MAX	MONTHLY AVG	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL								
FLOW	MGD	1	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR TOT
PRECIPITATION	INCHES	6	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	MEASURE
TEMPERATURE	REMOVED FROM THIS PERMIT							
CONVENTIONAL								
BOD_5	MG/L	6	*	*	60/45	ONCE/QUARTER	ONCE/QUARTER	GRAB
COD	MG/L	6	120	90	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
CONDUCTIVITY	REMOVED FROM THIS PERMIT							
OIL & GREASE	MG/L	1, 3	15	10	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
PH ǂ	SU	1, 3	6.5 TO 9.0	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SETTLEABLE SOLIDS	ML/L/HR	6	1.5	1.0	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TOTAL DISSOLVED SOLIDS	REMOVED FROM THIS PERMIT							
TSS	MG/L	6	80	60	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
METALS								
ALUMINUM, TOTAL RECOV.	µg/L	6	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
ANTIMONY, TOTAL RECOVER.	µg/L	3,6	8643	4300	7200/3600	ONCE/QUARTER	ONCE/QUARTER	GRAB
ARSENIC, TOTAL RECOVERABLE	µg/L	3,6	33	16	32.2/16.5	ONCE/QUARTER	ONCE/QUARTER	GRAB
BERYLLIUM, TOTAL RECOVER.	µg/L	3,6	8	4	8.1/4.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
CADMIUM, TOTAL RECOVER.	µg/L	3,6	0.6	0.3	7.8/3.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHROMIUM (III), TOTAL RECOV.	µg/L	3,6	210	105	2508.5/1250.2	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHROMIUM (VI), DISSOLVED	µg/L	3, 6	15	7.5	15.2/7.6	ONCE/QUARTER	ONCE/QUARTER	GRAB
COBALT, TOTAL RECOVERABLE	REMOVED FROM THIS PERMIT							
COPPER, TOTAL RECOVER.	µg/L	3, 6	22.0	11.0	20.8/10.4	ONCE/QUARTER	ONCE/QUARTER	GRAB
IRON, TOTAL RECOVERABLE	µg/L	3, 6	1643	819	1639/816.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
LEAD, TOTAL RECOVERABLE	µg/L	3,6	9.7	4.8	138.7/69.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
MERCURY, TOTAL RECOVERABLE	µg/L	3,6	0.8	0.4	2.8/1.4	ONCE/QUARTER	ONCE/QUARTER	GRAB
NICKEL, TOTAL RECOVERABLE	µg/L	3, 6	129	64	660.2/329.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
SELENIUM, TOTAL RECOV.	µg/L	3, 6	8	4	8.0/4.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
SILVER, TOTAL RECOVER.	µg/L	3, 6	8.7	4.3	7.8/3.9	ONCE/QUARTER	ONCE/QUARTER	GRAB
THALLIUM, TOTAL RECOVER.	µg/L	3,6	12.7	6.3	10.3/5.1	ONCE/QUARTER	ONCE/QUARTER	GRAB
ZINC, TOTAL RECOVERABLE	µg/L	3, 6	180	90	168.6/84.0	ONCE/QUARTER	ONCE/QUARTER	GRAB
NUTRIENTS								
AMMONIA AS N (APR – SEPT 30)	MG/L	2, 3, 5	3.7	1.4	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
AMMONIA AS N (OCT -MAR 31)	MG/L	2,6	7.5	2.9	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER								
BENZENE	µg/L	6	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE	mg/L	6	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE + SULFATE	mg/L	6	1000	*	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
FLUORIDE	mg/L	6	6.5	3.3	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SULFATE	mg/L	6	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
TPH	REMOVED FROM THIS PERMIT							

* - Monitoring requirement only
ǂ The facility will report the minimum and maximum pH values; pH is not to be averaged.
NEW - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

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

DERIVATION AND DISCUSSION OF LIMITS, OUTFALLS #011, #015:

PHYSICAL:

Flow
In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD).

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 specific control measure that should 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. It is not necessary to report all days of precipitation during the quarter because of the readily available on-line data.

Temperature
This parameter is removed from this permit. Temperature is not affected by the permittee's industrial process, and would instead reflect only the temperature of the environment at the time of sampling. This information is not required for permitting.

CONVENTIONAL:

Biochemical Oxygen Demand (BOD_5)
Monitoring only. The previous permit required a daily maximum limit of 60 mg/L, with a monthly average limit of 45 mg/L. Limits are removed from this parameter as the DMR data shows no reasonable potential for exceedances, and the previous limits were based on technology for domestic waste treatment not used at this landfill. It is found in the ELG for the industry, and is thus identified as a pollutant of concern at landfills, so monitoring is retained.

Chemical Oxygen Demand (COD)
Daily maximum limit of 120 mg/L at outfall #011 and #015, with a monthly average limit of 90 mg/L at outfall #015 only, continued from the previous permit. There is no water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD that may indicate materials/chemicals coming into contact with stormwater that cause an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs.

Conductivity
This is parameter is removed from this permit. Conductivity is an indicator parameter for metals and other conductive solids. Other indicator parameters are used in this permit, as well as sampling for many metals. Conductivity is duplicative and doesn't add additional monitoring information in this permit and is therefore removed.

Oil & Grease
15 mg/L daily maximum limit at outfalls #011 and #015, with a monthly average of 10 mg/L at #015 only, continued from the previous permit. There were no exceedances of this limit in the previous permit cycle. 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. 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 A: *Criteria for Designated Uses*; 10 mg/L is the standard for the protection of aquatic life. 10 mg/L is also the level at which sheen is estimated 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 daily maximum for outfall #015 was calculated using the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001). Section 5.4.2 indicates the waste load allocation can be set to the chronic standard. When the chronic standard is multiplied by 1.5, the daily maximum can be calculated. Hence, 10 * 1.5 = 15 mg/L for the daily maximum.

pH
6.5 to 9.0 SU. The Water Quality Standard at 10 CSR 20-7.031(5)(E) states water contaminants shall not cause pH to be outside the range of 6.5 to 9.0 standard pH units. The previous permit required 6.0-9.0 SU, based off of a technology standard. To be consistent with water quality standards, this has been changed to 6.5-9.0. It is in the best professional judgment the facility will be able to meet the new limits as stated, and therefore a schedule of compliance is not included for this parameter.

Settleable Solids (SS)
Daily maximum limit of 1.5 mL/L/hr at outfalls #011 and #015, with a monthly average limit of 1.0 mL/L/hr at outfall #015, continued from the previous permit. There was one exceedance of this parameter at outfall #015. There are no water quality standards for settleable solids; however, sediment discharges can negatively impact aquatic life habitat. Increased settleable solids are known to interfere with multiple stages of the life cycle in many benthic organisms. For example, they can smother eggs and young or clog the crevasses that benthic organisms use for habitat. Settleable solids are also a valuable indicator parameter. Solids monitoring allows the permittee to identify increases in sediment and solids that may indicate uncontrolled materials leaving the site.

Total Dissolved Solids
This parameter is removed from this permit. There are no water quality standards for this parameter. Total Dissolved Solids (TDS) is an indicator parameter. Similar to TSS, high concentrations of TDS may also reduce water clarity, contribute to a decrease in photosynthesis, combine with toxic compounds and heavy metals, and lead to an increase in water temperature. Other indicator parameters are employed in this permit, therefore the permit writer uses best professional judgment to remove this parameter from monitoring.

Total Suspended Solids (TSS)
Daily maximum limit of 80 mg/L at outfalls #011 and #015, with a monthly average limit of 60 mg/L at outfall #015 only, continued from the previous permit. There were four exceedances of this limit at outfall #015 in the last permit cycle. This limit has been found to be protective of the receiving stream, and the permit writer finds no justification for removal of the limit under anti-backsliding regulations. TSS is a pollutant of concern at landfills, as identified by the ELG for the industry. TSS is also a valuable indicator parameter. Suspended solids may attach to other pollutant particulates. TSS monitoring allows the permittee to identify increases in TSS that may indicate uncontrolled materials leaving the site. High levels of TSS indicate the possibility that substantial amounts of pollutants are leaving the site adsorbed to suspended solids.

METALS:
Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001) and *The Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit From a Dissolved Criterion* (EPA 823-B-96-007). General warm-water habitat criteria apply (WWH) designated as AQL in 10 CSR 20-7.031 Table A. Additional use criterion (HHP, DWS, GRW, IRR, or LWW) may also be used as applicable to determine the most protective effluent limit for the stream class and uses.

When ambient site specific hardness data is not available, standard water hardness of 162 mg/L for effluent is used in the conversion below. Additionally, when there are no site specific translator studies, partitioning between the dissolved and absorbed phases is assumed minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the department, the department may integrate those findings into derivation of the water quality limits. Conversion factors for Cd and Pb are hardness dependent. N/A means not applicable.

METAL*	CONVERSION FACTORS USING HARDNESS OF 162 MG/L	
	ACUTE	CHRONIC
Arsenic	1	1
Cadmium	0.924	0.889
Chromium III	0.316	0.860
Copper	0.960	0.960
Lead	0.721	0.721
Mercury	0.85	N/A
Nickel	0.998	0.997
Silver	0.850	N/A
Zinc	0.978	0.986

*There are no conversion factors for antimony, beryllium, chromium VI, iron, selenium, and thallium.

Aluminum, Total Recoverable
Monitoring only. This is added to all outfalls per the permit writer's best professional judgment. Aluminum is a non-ferrous metal widely used in industrial applications. It is used to manufacture beverage cans, foil, other packaging, construction materials, and other products too numerous to list. It is a common constituent of both sanitary and industrial solid waste and is a common pollutant of concern at landfills. It was reported believed absent on the application materials received 06/23/2016; however, aluminum is a frequent pollutant of concern for the landfill industry, and is included in other similar landfill permits.

Antimony, Total Recoverable
Daily maximum limit of 8643 µg/l at outfalls #011 and #015, with a monthly average limit of 4300 µg/L at outfall #015 only. The previous permit required a daily maximum limit of 7200 µg/L, with a monthly average limit of 3600 µg/L. Antimony is mainly used in the production of flame retardants. It is also found as an opacifier in enamel. DMR data showed only non-detects in the last permit cycle at outfall #011 and #015. The limits are increased for this parameter due to the method of calculations changing. The previous permit utilized a method developed for aquatic life protections. This permit used a method for protection of human health found in the *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001) Table 5.3.

WLA: 4300 µg/L
AML = WLA = **4300 µg/L**
MDL = AML * 2.01 = 4300 * 2.01 **= 8643 µg/L**

Arsenic, Total Recoverable
Daily maximum limit of 33 µg/L, at outfalls #011 and #015, with a monthly average limit of 16 µg/L at outfall #015 only. The previous permit required a daily maximum limit of 32.7 µg/L, with a monthly average limit of 16.3 µg/L. Arsenic has been used to treat wood products, and has been used in numerous agricultural insecticides and poisons. DMR data showed values well below the water quality standards at outfall #011 and #015. Limits are slightly changed from the previous permit due to changes in rounding. DMR data indicates the permittee will have no issue meeting the slightly amended limits, so no schedule of compliance (SOC) is given for the AML.

WLA = 20 µg/L
LTA_c = 20 * 0.527 = 10.54
MDL = 10.54 * 3.11 = 32.8 = **33µg/L**
AML = 10.54 * 1.55 = 16.33 = **16 µg/L**

Beryllium, Total Recoverable
Daily maximum limit 8 µg/L, at outfalls #011 and #015, with a monthly average limit of 4 µg/L at outfall #015 only. Beryllium has numerous industrial uses due to its light weight and particular chemical properties, especially as an alloy. The previous permit required a daily maximum limit of 8.1 µg/L and a monthly average limit of 4 µg/L. The change in limits reflects a change in use of significant digits only. DMR data indicates the permittee will have no issue meeting the slightly amended limits, so no SOC is given.

WLA = 5 µg/L
LTA_c = 5 * 0.527 = 2.635
MDL = 2.635 * 3.11 = 8.19 = **8 µg/L**
AML = 2.635 * 1.55 = 4.08 = **4 µg/L**

Cadmium, Total Recoverable
Daily maximum limit of 8.2 µg/L at outfall #011, which is set to the acute water quality standard for protection of aquatic life found in 10 CSR 20-7.031 table A. The previous permit required a daily maximum limit of 7.8 µg/L, with a monthly average limit of 3.9 µg/L. The limits are raised due to an updated water quality standard. Additionally, it was disclosed by the permittee discharges from outfall #011 are acute and intermittent in nature, therefore only acute water quality standards apply.

Acute AQL WQS: $e^{(1.0166 * \ln 162 - 3.062490)} * (1.136672 - \ln 162 * 0.041838) = 7.6028$ [at Hardness 162]
Acute TR WQS: 7.6028 ÷ 0.9238 = 8.2298

Daily maximum limit of 0.6 µg/L at outfall #015, with a monthly average limit of 0.3 µg/L. The previous permit required a daily maximum limit of 7.8 µg/L, with a monthly average limit of 3.9 µg/L. Cadmium has numerous industrial uses, including electroplating, paint, batteries, and metal polish, among others. DMR data showed non-detects for this parameter; however, the analytical methods used in the previous permit cycle are not sufficiently sensitive to show compliance with the limits in this permit. In the coming permit cycle, the permittee must use a sufficiently sensitive method to show compliance with the limits set in this permit. A schedule of compliance is given to meet this new limit.

Acute AQL WQS: $e^{(1.0166 * \ln 162 - 3.062490)} * (1.136672 - \ln 162 * 0.041838) = 7.6028$ [at Hardness 162]
Chronic AQL WQS: $e^{(0.7409 * \ln 162 - 4.719948)} * (1.101672 - \ln 162 * 0.041938) = 0.3436$ [at Hardness 162]

Acute TR WQS: 7.6028 ÷ 0.9238 = 8.2298 [Total Recoverable Conversion]
Chronic TR WQS: 0.3436 ÷ 0.8888 = 0.3865 [Total Recoverable Conversion]
Acute WLA: C_e = 8.2298 [WLA=WQS when no mixing]
Chronic WLA: C_e = 0.3865 [WLA=WQS when no mixing]
LTA_a: 8.2298 (0.321) = 2.6424 [CV = 0.6, 99th Percentile]
LTA_c: 0.3865 (0.527) = 0.2039 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL: 0.2039 (3.11) = 0.6349 = **0.6 µg/L** [CV = 0.6, 99th Percentile]
AML: 0.2039 (1.55) = 0.3165 = **0.3 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Chromium (III), Total Recoverable

Daily maximum limit of 2,677 µg/L at outfall #011. This limit is based on the acute water quality standard for protection of aquatic life. This is raised from the previous permit due to using an updated water quality standard. Additionally, it was disclosed by the permittee discharges from outfall #011 are acute and intermittent in nature, therefore only acute water quality standards apply.

Acute AQL WQS: $e^{(0.8190 * \ln 162 + 3.725666)} * 0.316 = 845.894$ [at Hardness 162]
Acute TR WQS: 845.894 ÷ 0.3160 = 2676.88=2677 µg/L [Total Recoverable Conversion]

Daily maximum limit of 210 µg/l, at outfall #015, with a monthly average limit of 105 µg/L. The previous permit required a daily maximum limit of 2508.5 µg/L, with a monthly average limit of 1250.2 µg/L. Chromium is used in chrome plating, dyes and pigments, and other industrial applications. Limits are decreased for this parameter due to using only the acute standard to calculate the limits in the last permit. This permit utilizes the correct method of calculating limits, following guidance in the *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001). Review of DMR data shows the permittee should be able to meet the new limits without issue, therefore a schedule of compliance is not required for this parameter.

Acute AQL WQS: $e^{(0.8190 * \ln 162 + 3.725666)} * 0.316 = 845.894$ [at Hardness 162]
Chronic AQL WQS: $e^{(0.8190 * \ln 162 - 0.684960)} * 0.860 = 110.044$ [at Hardness 162]
Acute TR WQS: 845.894 ÷ 0.3160 = 2676.88 [Total Recoverable Conversion]
Chronic TR WQS: 110.044 ÷ 0.8600 = 127.96 [Total Recoverable Conversion]
Acute WLA: C_e = 2676.88 [WLA=WQS when no mixing]
Chronic WLA: C_e = 127.96 [WLA=WQS when no mixing]
LTA_a: 2676.88 (0.321) = 859.5 [CV = 0.6, 99th Percentile]
LTA_c: 127.96 (0.527) = 67.489 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL:67.489 (3.11) = 210.192 = **210 µg/L** [CV = 0.6, 99th Percentile]
AML:67.489 (1.55) = 104.772 = **105 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Chromium (VI), Dissolved

Daily maximum limit of 15 µg/L, at outfalls #011 and #015, with a monthly average limit of 7.5 µg/L at outfall #015 only, continued from the previous permit. The previous permit required 15.2 µg/L daily maximum limit and 7.6 µg/L monthly average limit at outfalls #011 and #015. The new daily maximum limits are reflective of rounding differences only; however, a schedule of compliance is offered due to issues meeting limits for this parameter in the past. There was one exceedance of the limits at outfall #015 in the prior permit cycle. Sampling is quarterly at all outfalls as this is a pollutant of concern for this site and landfills in general.

Acute AQL WQS: 15 µg/L
Chronic AQL WQS: 10 µg/L
Acute WLA: 15 µg/L [WLA=WQS when no mixing]
Chronic WLA: 10 µg/L [WLA=WQS when no mixing]
LTA_a: 15 (0.321) = 4.815 [CV = 0.6, 99th Percentile]
LTA_c : 10 (0.527) = 5.27 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL: 4.815 (3.11) = **15 µg/L** [CV = 0.6, 99th Percentile]
AML: 4.815 (1.55) = **7.5 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Cobalt, Total Recoverable

This parameter is removed from this permit. The previous permit required daily maximum limits of 1639 µg/L, with a monthly average limit of 816.9 µg/L. Cobalt is generally strongly bound to soils, and controlling for sediment discharges will in turn control cobalt discharges. This permit requires a limit on solids discharges, which will directly reduce the potential to discharge cobalt. Additionally, BMPs that are used to control other metals will also control for cobalt; therefore the permit writer uses best professional judgment to remove this parameter from this permit. DMR data from the last five years shows no reasonable

potential for exceedances, as evidenced by the very low discharge concentrations when compared to the limits. The DMRs showed non-detects only, with detection limits at 5-10 µg/L. An addition non-detect at 10 µg/L is reported for both outfalls on the application data received 06/23/2016 . Cobalt is found in some industrial products, but is rare, usually used only in alloys or medical devices.

Copper, Total Recoverable

Daily maximum limit of 22 µg/L at outfalls #011 and #015, with a monthly average limit of 11 µg/L at outfall #015 only. The previous permit required a daily maximum limit of 20.8 µg/L, with a monthly average limit of 10.4 µg/L. 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. Limits are increased slightly from the previous permit due to a new aquatic life criterion.

Acute AQL WQS: $e^{(0.9422 * \ln 162 - 1.7003)} * 0.960 = 21.163$ [at Hardness 162]
Chronic AQL WQS: $e^{(0.8545 * \ln 162 - 1.7020)} * 0.960 = 13.525$ [at Hardness 162]
Acute TR WQS: 21.163 ÷ 0.96 = 22.048 [Total Recoverable Conversion]
Chronic TR WQS:13.525 ÷ 0.96 = 14.089 [Total Recoverable Conversion]
Acute WLA: $C_e = 22.048$ [WLA=WQS when no mixing]
Chronic WLA: $C_e = 14.089$ [WLA=WQS when no mixing]
LTA_a: 22.048 (0.321) = 7.079 [CV = 0.6, 99th Percentile]
LTA_c: 14.089 (0.527) = 7.431 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL:7.079 (3.11) = 22.048 = **22 µg/L** [CV = 0.6, 99th Percentile]
AML:7.079 (1.55) = 10.9901 = **11 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Iron, Total Recoverable

Daily maximum limit of 4000 µg/L at outfall #011. Limits are increased from the previous permit cycle due to the disclosure by the permittee the discharges from outfall #011 are acute in nature. For more information, see the Anti-backsliding section in part III above.

Daily maximum limit of 1643 µg/L at outfall #015, with a monthly average limit of 819 µg/L. The limits on outfall #015 are slightly changed from the last permit cycle, reflecting a different method of calculation/rounding only. Iron is a pollutant of concern for the landfill industry, as identified in the ELG found at 40 CFR 445 and the federal MSGP, Part 8 Sector L. There was one exceedance of this limit in the previous permit cycle. It is in the best professional judgment of the permit writer to continue limits on this parameter due to the continuous discharges associated with these outfalls, to protect water quality in the receiving streams.

Acute AQL WQS: none
Chronic AQL WQS: 1000
LTA_a: none [CV = 0.6, 99th Percentile]
LTA_c: 1000 (0.527) = 527.43 [CV = 0.6, 99th Percentile]
MDL: 527.43 (3.11) = 1642.7 = **1643 µg/L** [CV = 0.6, 99th Percentile]
AML:527.43 (1.55) = 818.8 = **819 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Lead, Total Recoverable

Daily maximum limit at outfall #011 of 151 µg/L. Limits are increased from the previous permit due to the disclosure by the permittee that discharges at outfall #011 are acute in nature. The acute water quality standard for protection of aquatic life from 10 CSR 20-7.031 Table A is applied.

Acute AQL WQS: $e^{(1.273 * \ln 162 - 1.460448)} * (1.46203 - \ln 162 * 0.145712) = 108.69$ [at Hardness 162]
Acute TR WQS: 108.69 ÷ 0.7207 = 150.816 [Total Recoverable Conversion]

Daily maximum limit of 9.7 µg/L at outfall #015, with a monthly average limit of 4.8 µg/L. The previous permit required a daily maximum limit of 138.7 µg/L with a monthly average limit of 69.1 µg/L. Lead has numerous industrial uses, including as an alloy with other metals, batteries, solder, a coolant, and others. Review of the DMR data shows the permittee was not using sufficiently sensitive methods to show compliance with the water quality standards. In the coming permit cycle, the permittee must choose a sufficiently sensitive method to show compliance with the limits in this permit, which are 9.7 µg/L daily maximum total recoverable lead, and 4.8 µg/L monthly average total recoverable lead. The limits on this parameter are lowered in this permit due to this permit using an updated, hardness adjusted, WQS for protection of aquatic life and using both the acute and chronic standards in calculating limits. A schedule of compliance is provided to meet the new limits in this permit.

Acute AQL WQS: $e^{(1.273 * \ln 162 - 1.460448)} * (1.46203 - \ln 162 * 0.145712) = 108.69$ [at Hardness 162]
Chronic AQL WQS: $e^{(1.273 * \ln 162 - 4.704797)} * (1. 46203 - \ln 162 * 0.145712) = 4.238$ [at Hardness 162]
Acute TR WQS: 108.69 ÷ 0.7207 = 150.816 [Total Recoverable Conversion]

Chronic TR WQS: 4.238 ÷ 0.7207 = 5.881 [Total Recoverable Conversion]
Acute WLA: C_e = 150.816 [WLA=WQS when no mixing]
Chronic WLA: C_e = 5.881 [WLA=WQS when no mixing]
LTA_a: 150.816 (0.321) = 48.425 LTA_c: 5.881 (0.527) = 3.102 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL: 3.102 (3.11) = 9.660 = **9.7 µg/L** [CV = 0.6, 99th Percentile]
AML: 3.102 (1.55) = 4.815 = **4.8 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Mercury, Total Recoverable

Daily maximum limit of 2.4 µg/L at outfall #011. This is slightly lower than the previous permit's limit because the permit writer in the previous permit utilized a conversion to "total recoverable". Our current regulations found in 10 CSR 20-7.031 Table A do not support any converting factor for mercury. A schedule of compliance is unnecessary for this new limit, as the permittee met it consistently in the previous permit cycle.

Acute WLA: C_e = 2.4 µg/L [WLA=WQS when no mixing]

Daily maximum limit of 0.8 µg/L at outfall #015, with a monthly average limit of 0.4 µg/L. The previous permit required a daily maximum limit of 2.8 µg/L with a monthly average limit of 1.4 µg/L. Lead has numerous industrial uses, including in electrical equipment, batteries, semi-conductors, medical devices, and others. Limits are lowered on this parameter due to the previous permit using only acute criteria in the calculation of limits. This permit utilizes both acute and chronic criteria. The permittee is able to meet these new limits according to DMR data, therefore a schedule of compliance is not offered for this parameter.

Acute WLA: C_e = 2.4 µg/L [WLA=WQS when no mixing]
Chronic WLA: C_e = 0.5 µg/L [WLA=WQS when no mixing]
LTA_a: 2.4 * 0.321 = 0.7704 [CV = 0.6, 99th Percentile]
LTA_c: 0.5 * 0.527 = 0.2635 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL = 0.2635 * 3.11 = **0.8 µg/L**
AML = 0.2635 * 1.55 = **0.4 µg/L**

Nickel, Total Recoverable

Daily maximum limit of 706 µg/L at outfall #011. This is increased from the last permit because this permit uses updated water quality standards. Additionally, it was disclosed by the permittee discharges from outfall #011 are acute and intermittent in nature, therefore only acute water quality standards apply.

Acute AQL WQS: $e^{(0.846 * \ln 162 + 2.255647)} * 0.998 = 704.69$ [at Hardness 162]
Acute TR WQS: 704.69 ÷ 0.998 = 706.1 [Total Recoverable Conversion]

Daily maximum limit of 129 µg/L at outfall #015, with a monthly average limit of 64 µg/L. The previous permit required a daily maximum limit of 660.2 µg/L with a monthly average limit of 329.1 µg/L. Nickel is primarily used as an alloy with other metals. It can be found in magnets, rechargeable batteries, and as an anti-corrosive coating. The permit writer reviewed the available DMR data. The data reported ranged from 5.13 µg/L to 41.8 µg/L. It is the best professional judgment of the permit writer the variability and range of data shows reasonable potential for exceedance of chronic water quality standards, therefore a limit is required to protect water quality standards found at 10 CSR 20-7.031 Table A. After reviewing performance data, it is in the best professional judgment of the permit writer that the permittee can meet the new limits as required, and a schedule of compliance is unnecessary for this parameter.

Acute AQL WQS: $e^{(0.846 * \ln 162 + 2.255647)} * 0.998 = 704.69$ [at Hardness 162]
Chronic AQL WQS: $e^{(0.846 * \ln 162 + 0.058978)} * 0.997 = 78.26$ [at Hardness 162]
Acute TR WQS: 704.69 ÷ 0.998 = 706.1 [Total Recoverable Conversion]
Chronic TR WQS: 78.26 ÷ 0.997 = 78.5 [Total Recoverable Conversion]
Acute WLA: C_e = 706.1 [WLA=WQS when no mixing]
Chronic WLA: C_e = 78.5 [WLA=WQS when no mixing]
LTA_a: 706.1 (0.321) = 226.72 [CV = 0.6, 99th Percentile]
LTA_c: 78.5 (0.527) = 41.1 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL: 41.1 (3.11) = 128.9 = **129 µg/L** [CV = 0.6, 99th Percentile]
AML: 41.1 (1.55) = 64.3 = **64 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Selenium, Total Recoverable

Daily maximum limit of 8 µg/L at outfalls #011 and #015, with a monthly average limit of 4 µg/L at outfall #015 only. Selenium is primarily used in the production of glass and electronics. It can also be found as an alloy with other metals. It is a known pollutant of concern at this site. Review of available DMR data shows exceedances of limits at both outfall #011 and #015, with the maximum value reported 80.2 µg/L. A limit is retained on discharge from outfalls #011 and #015 to protect water quality standards found at 10 CSR 20-7.031 table A. Limits are slightly altered from the previous permit but reflect only changes in rounding; therefore a schedule of compliance is not provided for this parameter.

Chronic AQL WQS: 5
LTA_c: 5 (0.527) = 2.637 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL: 2.637 (3.11) = 8.213 = **8 µg/L** [CV = 0.6, 99th Percentile]
AML:2.637 (1.55) = 4.094 = **4 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Silver, Total Recoverable

Daily maximum limit of 8.7 µg/L at outfalls #011 and #015, with a monthly average limit of 4.3 µg/L at outfall #015 only. The previous permit required a daily maximum limit of 7.8 µg/L with a monthly average of 3.9 µg/L. Silver is primarily used industrially in electronics and is a pollutant of concern at landfills. Limits are changed from the previous permit reflecting updated water quality standards.

Acute AQL WQS: $e^{(1.72 * \ln 162 - 6.588144)} * 0.85 = 7.4$ µg/L
Acute TR WQS: 7.4 ÷ 0.85 = 8.7 [Total Recoverable Conversion]
LTA_a:8.7 (0.321) = 2.7927 [CV = 0.6, 99th Percentile]
MDL: 2.7927 (3.11) = 8.68 = **8.7 µg/L** [CV = 0.6, 99th Percentile]
AML:2.7927 (1.55) = 4.328 = **4.3 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Thallium, Total Recoverable

Daily maximum limit of 12.7 µg/L at outfalls #011 and #015, with a monthly average limit of 6.3 µg/L at outfall #015 only. The previous permit required a daily maximum limit of 10.3 µg/L with a monthly average limit of 5.1µg/L. Thallium was routinely used as a rat poison and an ant killer in the United States until around 1972, but current uses are primarily in optics and electronics. Limits are increased in this permit reflecting an updated method of calculating human health based limits found in *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001) Table 5.3.

WLA: 6.3 µg/L
AML = WLA = **6.3 µg/L**
MDL = AML * 2.01 = 6.3 * 2.01 **= 12.7 µg/L**

Zinc, Total Recoverable

Daily maximum limit of 180 µg/L at outfalls #011 and #015, with a monthly average limit of 90 µg/L at outfall #015 only. The previous permit required 168.6 µg/L daily maximum limit with a monthly average limit of 84.0 µg/L. 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. Limits are raised in this permit, reflecting a new water quality standard for protection of aquatic life.

Acute AQL WQS: $e^{(0.8473 * \ln 162 + 0.884)} * 0.98 = 176.71$ [at Hardness 162]
Chronic AQL WQS: $e^{(0.8473 * \ln 162 + 0.884)} * 0.98 = 176.71$ [at Hardness 162]
Acute TR WQS: 176.71 ÷ 0.978 = 180.69 [Total Recoverable Conversion]
Chronic TR WQS: 176.71 ÷ 0.986 = 179.22 [Total Recoverable Conversion]
Acute WLA: C_e = 180.69 [WLA=WQS when no mixing]
Chronic WLA: C_e = 179.22 [WLA=WQS when no mixing]
LTA_a: 180.69 (0.321) = 58 [CV = 0.6, 99th Percentile]
LTA_c: 179.22 (0.527) = 94.5 [CV = 0.6, 99th Percentile]
Use most protective number of LTA_a or LTA_c.
MDL: 58 (3.11) = 180.318 = **180 µg/L** [CV = 0.6, 99th Percentile]
AML: 58 (1.55) = 89.9 = **90 µg/L** [CV = 0.6, 95th Percentile, n = 4]

NUTRIENTS:

Ammonia, Total as Nitrogen
Daily maximum limits of 3.7 µg/L and at outfalls #011 and #015, with a monthly average limit of 1.4 µg/L at outfall #015 only, in the summer season; daily maximum limits of 7.5 µg/L at outfalls #011 and #015, with a monthly average limit of 2.9 µg/L at outfall #015 only, in the winter season are continued from the last permit. Ammonia is a primary component of leachate, and is a pollutant of concern for landfills as identified in the ELG for the industry. The permit writer did not receive adequate data in the previous permit cycle to determine reasonable potential for ammonia; therefore, limits from the previous permit are continued as they are considered protective of water quality and designated uses.

OTHER:

Benzene
Monitoring only. This is a new parameter in this permit. This parameter is added per the permit writer's best professional judgment. Landfill and quarry sites are subject to heavy truck traffic, and benzene is a common ingredient in gasoline fuel, diesel fuel, vehicle oils and lubricants. Benzene is also found in a number of commercial and industrial products which may be discarded in a sanitary landfill.

Chloride
Monitoring only. This is a new parameter in this permit. Chloride is a pollutant of concern at landfills. Adding this parameter is a reporting requirement only, as this permit already required sampling for chloride + sulfate. Requiring reporting for chloride will allow the permit writer to determine the amount of both chloride and sulfate in the reported amount. One of the receiving streams, Fee Fee Creek (New) (P) 1704 is listed as impaired for chloride, therefore monitoring for this parameter separately is especially relevant.

Chloride + Sulfate
Daily maximum limit of 1000 mg/L, with monitoring only for the monthly average limit. Chloride and sulfate are pollutants of concern at landfills. DMR data from the previous permit cycle show no exceedances of this parameter; however, the values reported range from 36 mg/L up to 806 mg/L, showing this parameter is a pollutant of concern for the site.

Fluoride
Daily maximum limit of 6.5 mg/L with a monthly average limit of 3.3 mg/L. Limits are continued from the previous permit. Review of DMR data from the last permit cycle show no values of concern; however, the permit writer is unable to determine reasonable potential for this parameter from the data provided. Landfills are one of the only industrial sources of fluoride, therefore limits will continue.

Sulfate
Monitoring only. This is a new parameter in this permit. Sulfate is a pollutant of concern at landfills. Adding this parameter is a reporting requirement only, as this permit already required sampling for chloride + sulfate. Requiring reporting for sulfate will allow the permit writer to determine the amount of both chloride and sulfate in the reported amount. Additionally, the permittee reported sulfate at possible levels of concern in the application materials received 06/23/2016; however, sulfate has no water quality standards in the state of Missouri. Monitoring for this pollutant will collect data for future permit cycles.

Total Petroleum Hydrocarbons
This parameter is removed from this permit. Total petroleum hydrocarbons is largely an indicator pollutant to show the discharge of petroleum based products. The permit writer uses other indicators of hydrocarbon and oil discharge in this permit, including benzene, ethylbenzene, naphthalene, and the broad indicator pollutant oil and grease. TPH has no water quality standards, and determining a "safe" or "non-hazardous" amount of discharge is not feasible in this permit. It can be composed of numerous different petroleum based hydrocarbons, and cannot be separated into its component parts to determine toxicity. It is therefore unsuitable for this site given the complicated nature of the discharges. It is in the permit writer's best professional judgment to remove this parameter.

Part V. SAMPLING AND REPORTING REQUIREMENTS:

Refer to each outfall's derivation and discussion of limits section to review individual sampling and reporting frequencies and sampling type.

ELECTRONIC DISCHARGE MONITORING REPORTING:
Due to upcoming federal regulations, all facilities will need to begin submitting their discharge monitoring reports electronically, called the eDMR system. To begin the process, please visit http://dnr.mo.gov/env/wpp/edmr.htm. This process is expected to save time, lessen paperwork, and reduce operating costs for both the facilities and the water protection program. Additional information may also be found at http://dnr.mo.gov/pubs/pub2474.pdf.

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 unless alternatives are approved by the department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive. 40 CFR 136 lists the approved methods accepted by the department.

SAMPLING FREQUENCY JUSTIFICATION:
Sampling and reporting frequency was generally changed from the last permit from annual to quarterly. Parameters were increased to quarterly at outfalls #011 and #015 due to reasonable potential and variability of effluent. The blended discharges at this outfalls could lead to very variable discharge. Annual sampling is inadequate to capture the discharges of an active landfill, rock quarry, asphalt plant, and concrete plant in addition to stormwater. Sampling frequency for stormwater-only outfalls is typically quarterly even though BMP inspection occurs monthly. The facility may sample more frequently if they need additional data to determine if their best management technology is 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, and volatile organic samples.

Part VI. ADMINISTRATIVE REQUIREMENTS

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

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. 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 three years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit. *This permit will become synchronized by expiring the end of the 1st quarter, 2021.*

PUBLIC NOTICE:
The Department shall give public notice that 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 and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

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

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

☒ - The Public Notice period for this operating permit was from 06/16/2017 to 07/17/2017. No responses were received.

DATE OF FACT SHEET: 05/23/2017

COMPLETED BY:

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

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

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

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

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

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

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

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

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	FEE SUBMITTED
JET PAY CONFIRMATION NUMBER	

PLEASE READ ALL THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.
SUBMITTAL OF AN INCOMPLETE APPLICATION MAY RESULT IN THE APPLICATION BEING RETURNED.

IF YOUR FACILITY IS ELIGIBLE FOR A NO EXPOSURE EXEMPTION:
Fill out the No Exposure Certification Form (Mo 780-2828): https://dnr.mo.gov/forms/780-2828-f.pdf

1. REASON FOR APPLICATION:

☐ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

☐ b. This facility is now in operation under permit MO – _____, is submitting an application for renewal, and there is a proposed increase in design wastewater flow. Antidegradation Review may be required. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

☐ c. This is a facility submitting an application for a new permit (for a new facility). Antidegradation Review may be required. New permit fee is required.

☑ d. This facility is now in operation under Missouri State Operating Permit (permit) MO – 0097543 and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Champ Landfill Company, LLC		314-279-5777	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
2305 Creve Coeur Mill Road	Maryland Heights	MO	63043

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
Champ Landfill Company, LLC		314-267-0585	
EMAIL ADDRESS			
josh.newton@wasteconnections.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
2305 Creve Coeur Mill Road	Maryland Heights	MO	63043

4. CONTINUING AUTHORITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Champ Landfill Company, LLC		314-267-0585	
EMAIL ADDRESS			
josh.newton@wasteconnections.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
2305 Creve Coeur Mill Road	Maryland Heights	MO	63043

5. OPERATOR CERTIFICATION

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
Champ Landfill Company, LLC		314-267-0585	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
2305 Creve Coeur Mill Road	Maryland Heights	MO	63043

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Josh Newton	Site Manager	314-267-0585
E-MAIL ADDRESS		
josh.newton@wasteconnections.com		

7. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary.

NAME			
ADDRESS	CITY	STATE	ZIP CODE

MO 780-1479 (02-19)

No changes requested to currently permitted Outfalls with this permit modification.
No known changes to downstream landowners.

8. ADDITIONAL FACILITY INFORMATION

8.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)
For Universal Transverse Mercator (UTM), use Zone 15 North referenced to North American Datum 1983 (NAD83)

001 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____
002 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____
003 _____¼ _____¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____
004 _____¼ _____¼ Sec _____
UTM Coordinates Easting (X): _____ Northing (Y): _____

No changes requested to currently permitted Outfalls with this permit modification.

8.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.
Primary SIC 4953 and NAICS 562212 SIC 2951 and NAICS 324121
SIC 3273 and NAICS 327320 SIC 1422, 2875 and NAICS 212312, 325314

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

A. Is this permit for a manufacturing, commercial, mining, solid/hazardous waste, or silviculture facility? YES ☑ NO ☐
If yes, complete Form C.

B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A) : YES ☑ NO ☐
If yes, complete Forms C and D.

C. Is wastewater land applied? YES ☐ NO ☑
If yes, complete Form I.

Forms C & D not provided, no change in Outfalls with this permit modification.

D. Are sludge, biosolids, ash, or residuals generated, treated, stored, or land applied? YES ☐ NO ☑
If yes, complete Form R.

E. Have you received or applied for any permit or construction approval under the CWA or any other environmental regulatory authority? YES ☑ NO ☐
If yes, please include a list of all permits or approvals for this facility.

WPP already informed of facility's permits, copies not included at this time.

F. Do you use cooling water in your operations at this facility? YES ☐ NO ☑
If yes, please indicate the source of the water: _____

G. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

No map provided, no changes to facility Outfalls or receiving stream with this modification.

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTE...

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit http://dnr.mo.gov/env/wpp/edmr.htm to access the Facility Participation Package.

☑ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.

☐ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.

☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

11. FEES

Permit fees may be paid by attaching a check, or online by credit card or eCheck through the JetPay system. Use the URL provided to access JetPay and make an online payment: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/

12. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Josh Newton, Site Manager	314-267-0585
SIGNATURE	DATE SIGNED
	6-5-19

COMPLIANCE SCHEDULE
MO0097543
Champ Landfill Company, LLC
St. Louis County, Missouri
DATE

The Missouri Department of Natural Resources' (Department) St. Louis Regional Office and Champ Landfill Company, LLC agree to the following Compliance Schedule to address significant noncompliance with the Missouri Clean Water Law, the Missouri Clean Water Commission Regulations, and Missouri State Operating Permit MO-0097543. The original wording of the January 8, 2019 Letter of Warning (LOW) and Report of Inspection, Violations and Required Actions, item #1, described the following violation:

Failed to comply with the effluent limits contained in Section A of Missouri State Operating Permit (MSOP) MO0097543 [Sections 644.051.1(3) and 644.076.1, RSMo, and 10 CSR 20-6.010(8)(A)4]. Most recent effluent exceedances occurred during the 1st quarter 2019 reporting period for Outfall #011 (Total Suspended Solids, hexavalent chromium, and selenium) and Outfall #015 (Total Suspended Solids, Oil & Grease, cadmium, iron, and selenium).

Schedule:

A. The terms of this agreement shall begin on **DATE**.

B. If additional time is necessary, a request for an extension of a specific deadline may be submitted to the **Missouri Department of Natural Resources, St. Louis Regional Office, 7545 South Lindbergh Blvd, St. Louis, MO 63125** (hereinafter referred to as "Region") for review. The request should include valid reasons, such as construction scheduling, etc.

C. Failure to achieve compliance with your permit conditions will result in elevated enforcement action.

D. Within **3 YEARS OF COMPLIANCE SCHEDULE DATE**, physical site modifications as proposed by Champ Landfill Company, LLC should be completed. These proposed modifications for the Outfall #011 drainage area include the construction of an additional storm water pond for the concrete plant, modification to the existing Sediment Pond #5, and the installation of discharge piping from each pond. Proposed changes to the Outfall #015 area include the relocation and addition of a new storm water pond and outfall #016 on the northern end of the property, expansion of the existing Sediment Pond #1, and installation of a pump and discharge pipe system to allow for an alternating discharge.

E. Submit Quarterly Progress Reports to the Region prior to the 28th of April, July, October, and January of each year until proposed actions to achieve the remedy are completed. Upon completion of the projects, a quarters worth of monthly sampling data that does not exceed any effluent limits may be submitted to the Department as demonstration of project completion.

The following paragraphs detail what is to be changed at the site:

Outfall 011 Drainage Area

Outfall 011 has had selenium and hexavalent chromium concentrations exceed limits. The approach to compliance for Outfall 011 will begin with the following schedule for action items and physical changes at the site:

1. Construct a new storm water pond that captures storm water and process water generated by the concrete plant. The area where the new pond will be constructed is currently leased to the quarry operation, so a modification to that lease will need to be implemented. In addition to the new pond for the concrete plant, a significant underground electric service will need to be relocated.

2. Expand Sedimentation Pond #5 and modify the gradingso that only storm water from the South Pit of Champ is detained by this pond.

3. Install outlet piping from each pond to discharge directly to Fee Fee Creek instead of routing through Detention Pond #1.

Approximately 180 days before the proposed site changes are complete, Champ Company, LLC will request to modify its permit to eliminate the outfalls that apply only to the concrete business and quarry business. Champ will request a modification to the permit for a new outfall at the end of the pipe discharging water from Sedimentation Pond #5 into Fee Fee Creek and elimination of Outfall 011 from the Champ permit.
It is anticipated the other other impacted onsite businesses will alsosubmit permit applications as follows:

4. The concrete business will apply for a permit for its own outfall at the end of the pipe discharging water from its new pond into Fee Fee Creek.

5. The quarry business will incorporate the discharge from Outfall 011 into its permit. The Quarry's industrial activity will also have its own permit for discharge.

However, if elimination of the discharge into Detention Pond #1 from the concrete business has positive impacts on concentrations and Champ is able to meet permit limits, Champ may elect to continue use of Detention Pond #1 and Outfall 011 in conjunction with the quarry business.

Outfall 015 Drainage Area

Outfall 015 has had selenium and iron sample results above the permitted limits. The approach to compliance for Outfall 015 is to implement a system where discharge will not be permitted as continuous, and modify the permit limits to be similar to the ones for Outfall 011.

In order to ensure that discharge will not be continuous to Outfall 015 (continuous is generally defined as "four consecutive days"), additional storage capacity will need to be developed. A new pond and Outfall 016 will be constructed on the north end of the facility. Water that is pumped from the North Pit area will alternate discharging between Outfall 015 and the newly proposed Outfall 016. A preliminary schematic for these proposed changes is provided on Figure 3 in Champ's response dated February 7, 2019. The action items are summarized below.

1. Add a new storm water pond on the north end of the property that discharges to a new outfall (referred to in this document as Outfall 016; in the same location as previous Outfall 016 at the site). In order to construct the additional pond on the north end of the facility, Champ will need to construct an access road.

2. Relocate and increase the size of Sedimentation Pond #1 when the next phase of rock is quarried out for landfill construction. Significant excavation of rock is necessary to construct the expanded Sedimentation Pond #1.

3. Install a pump and discharge pipe system that has valves to switch the discharge between Outfall 015 and Outfall 016.

4. Approximately 180 days before the proposed site changes are complete, submit a permit modification application for MSOP MO0097543 to incorporate Outfall 016 into the permit along with operational conditions and documentation requirements related to alternating the discharge. Request the permit incorporates new limits at Outfalls 015 and 016 to reflect acute toxicity limits similar to those at Outfall 011.