

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-0105023

Owner: Southeast Landfill, L.L.C
Address: 2001 N. M-291 Hwy, Sugar Creek, MO 64058

Continuing Authority: Same as above
Address: Same as above

Facility Name: Southeast Landfill, L.L.C
Facility Address: 8301 Indiana Ave, Kansas City, MO 64132

Legal Description: See page two (2)
Latitude/Longitude: See page two (2)

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

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

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

November 7, 2008
Effective Date

November 6, 2013
Expiration Date
MO 780-0041 (10-93)


Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission


Edward Galbraith, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Outfalls #001, #005, & #006 – Eliminated.

Outfall #002 - Active Sanitary Landfill - SIC #4953

0 acres of impervious surface and drains a total of 11 acres, BMPs: grass/ terracing/ and riprap.

Actual flow is dependent upon precipitation.

Legal Description: NW ¼, SW ¼, Sec. 14, T48N, R33W, Jackson County

Latitude/Longitude: +3859024/-09432138

Receiving Stream: Blue River (P)

First Classified Stream and ID: Blue River (P) (00419)

USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #003 - Active Sanitary Landfill - SIC #4953

0 acres of impervious surface and drains a total of 14 acres, BMPs: grass/ terracing/ and riprap.

Actual flow is dependent upon precipitation.

Legal Description: NW ¼, SW ¼, Sec. 14, T48N, R33W, Jackson County

Latitude/Longitude: +3858501/-09432206

Receiving Stream: Blue River (P)

First Classified Stream and ID: Blue River (P) (00419)

USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #004 - Active Sanitary Landfill - SIC #4953

0 acres of impervious surface and drains a total of 40 acres, BMPs: grass/ terracing/ and riprap.

Actual flow is dependent upon precipitation.

Legal Description: SE ¼, SE ¼, Sec. 15, T48N, R33W, Jackson County

Latitude/Longitude: +3858345/-09432237

Receiving Stream: Blue River (P)

First Classified Stream and ID: Blue River (P) (00419)

USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #007 - Active Sanitary Landfill - SIC #4953

0 acres of impervious surface and drains a total of 25 acres, BMPs: grass/ terracing/ and riprap.

Actual flow is dependent upon precipitation.

Legal Description: NW ¼, SE ¼, Sec. 15, T48N, R33W, Jackson County

Latitude/Longitude: +3858515/-09432389

Receiving Stream: Blue River (P)

First Classified Stream and ID: Blue River (P) (00419)

USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #008 - Active Sanitary Landfill - #4953

0 acres of impervious surface and drains a total of 20 acres, BMPs: grass/ terracing/ and riprap.

Actual flow is dependent upon precipitation.

Legal Description: NE ¼, SE ¼, Sec. 15, T48N, R33W, Jackson County

Latitude/Longitude: +3858534/-09432369

Receiving Stream: Blue River (P)

First Classified Stream and ID: Blue River (P) (00419)

USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #009 - Active Sanitary Landfill - #4953

0 acres of impervious surface and drains a total of 12 acres, BMPs: grass/ terracing/ and riprap.

Actual flow is dependent upon precipitation.

Legal Description: SW ¼, NW ¼, Sec. 14, T48N, R33W

Latitude/Longitude: +3859079/-09432126

Receiving Stream: Blue River (P)

First Classified Stream and ID: Blue River (P) (00419)

USGS Basin & Sub-watershed No.: (10300101 - 010070)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 3 of 11	
					PERMIT NUMBER MO-0105023	
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 upon issuance and remain in effect until six (6) months after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall(s) #002, #003, #004, #007, #008, & #009 - (Note 1)</u>						
Flow	MGD	*		*	Once/quarter**	24 hr. estimate
Rainfall	Inches	*		*	Daily measurement	total
Chemical Oxygen Demand	mg/L	120		90	Once/quarter**	grab
Biochemical Oxygen Demand ₅	mg/L	60		45	Once/quarter**	grab
Total Suspended Solids	mg/L	80		60	Once/quarter**	grab
pH	SU	***		***	Once/quarter**	grab
Settleable Solids	mL/L/hr	1.5		1.0	Once/quarter**	grab
Oil & Grease	mg/L	15		10	Once/quarter**	grab
Ammonia as N	mg/L	*		*	Once/quarter**	grab
Chloride + Sulfate	mg/L	1000		*	Once/quarter**	grab
Chloride	mg/L	*		*	Once/quarter**	grab
Fluoride	mg/L	*		*	Once/quarter**	grab
Toluene	mg/L	*		*	Once/quarter**	grab
Benzene	µg/L	*		*	Once/quarter**	grab
Ethylbenzene	µg/L	*		*	Once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE <u>January 28, 2009</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I</u> , STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 4 of 11		
				PERMIT NUMBER MO-0105023		
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<u>Outfall(s) #002, #003, #004, #007, #008, & #009</u> - (Note 1)						
Total Hardness	mg/L	*		*	Once/quarter**	grab
Iron, Total Recoverable	mg/L	*		*	Once/quarter**	grab
Antimony, Total Recoverable	mg/L	*		*	Once/quarter**	grab
Arsenic, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Beryllium, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Cadmium, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Chromium (III), Total Recoverable	µg/L	*		*	Once/quarter**	grab
Chromium (VI), Total Recoverable	µg/L	*		*	Once/quarter**	grab
Cobalt, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Copper, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Lead, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Mercury, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Nickel, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Selenium, Total Recoverable (Note 2)	µg/L	*		*	Once/quarter**	grab
Silver, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Thallium, Total Recoverable (Note 2)	µg/L	*		*	Once/quarter**	grab
Zinc, Total Recoverable	µg/L	*		*	Once/quarter**	grab
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					PERMIT NUMBER MO-0105023	
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		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #002, #003, #004, #008, & #009</u> (Note 1)						
Flow	MGD	*		*	Once/quarter**	24 hr. estimate
Rainfall	Inches	*		*	Daily measurement	total
Chemical Oxygen Demand	mg/L	90		60	Once/quarter**	grab
Biochemical Oxygen Demand ₅	mg/L	45		30	Once/quarter**	grab
Total Suspended Solids	mg/L	80		50	Once/quarter**	grab
pH	SU	***		***	Once/quarter**	grab
Settleable Solids	mL/L/hr	1.5		1.0	Once/quarter**	grab
Oil & Grease	mg/L	15		10	Once/quarter**	grab
Ammonia as N	mg/L	*		*	Once/quarter**	grab
Chloride + Sulfate	mg/L	1000		*	Once/quarter**	grab
Chloride	mg/L	859		428	Once/quarter**	grab
Fluoride	mg/L	*		*	Once/quarter**	grab
Toluene	mg/L	*		*	Once/quarter**	grab
Benzene	µg/L	*		*	Once/quarter**	grab
Ethylbenzene	µg/L	*		*	Once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2009</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 6 of 11	
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<u>Outfall(s) #002, #003, #004, #008, & #009</u> (Note 1)						
Total Hardness	mg/L	*		*	Once/quarter**	grab
Iron, Total Recoverable	mg/L	1.6		0.8	Once/quarter**	grab
Antimony, Total Recoverable	mg/L	*		*	Once/quarter**	grab
Arsenic, Total Recoverable	µg/L	32.7		16.3	Once/quarter**	grab
Beryllium, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Cadmium, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Chromium (III), Total Recoverable	µg/L	*		*	Once/quarter**	grab
Chromium (VI), Total Recoverable	µg/L	*		*	Once/quarter**	grab
Cobalt, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Copper, Total Recoverable	µg/L	25.8		12.9	Once/quarter**	grab
Lead, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Mercury, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Nickel, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Selenium, Total Recoverable (Note 2)	µg/L	*		*	Once/quarter**	grab
Silver, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Thallium, Total Recoverable (Note 2)	µg/L	*		*	Once/quarter**	grab
Zinc, Total Recoverable	µg/L	209.3		104.3	Once/quarter**	grab
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		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #007</u> - (Note 1)						
Flow	MGD	*		*	Once/quarter**	24 hr. estimate
Rainfall	Inches	*		*	Daily measurement	total
Chemical Oxygen Demand	mg/L	90		60	Once/quarter**	grab
Biochemical Oxygen Demand ₅	mg/L	45		30	Once/quarter**	grab
Total Suspended Solids	mg/L	80		50	Once/quarter**	grab
pH	SU	***		***	Once/quarter**	grab
Settleable Solids	mL/L/hr	1.5		1.0	Once/quarter**	grab
Oil & Grease	mg/L	15		10	Once/quarter**	grab
Ammonia as N	mg/L	12.1		4.6	Once/quarter**	grab
Chloride + Sulfate	mg/L	1000		*	Once/quarter**	grab
Chloride	mg/L	859		428	Once/quarter**	grab
Fluoride	mg/L	*		*	Once/quarter**	grab
Toluene	mg/L	*		*	Once/quarter**	grab
Benzene	µg/L	*		*	Once/quarter**	grab
Ethylbenzene	µg/L	*		*	Once/quarter**	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2009</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
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Iron, Total Recoverable	mg/L	1.6		0.8	Once/quarter**	grab
Antimony, Total Recoverable	mg/L	*		*	Once/quarter**	grab
Arsenic, Total Recoverable	µg/L	32.7		16.3	Once/quarter**	grab
Beryllium, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Cadmium, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Chromium (III), Total Recoverable	µg/L	*		*	Once/quarter**	grab
Chromium (VI), Total Recoverable	µg/L	*		*	Once/quarter**	grab
Cobalt, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Copper, Total Recoverable	µg/L	25.8		12.9	Once/quarter**	grab
Lead, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Mercury, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Nickel, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Selenium, Total Recoverable (Note 2)	µg/L	*		*	Once/quarter**	grab
Silver, Total Recoverable	µg/L	*		*	Once/quarter**	grab
Thallium, Total Recoverable (Note 2)	µg/L	*		*	Once/quarter**	grab
Zinc, Total Recoverable	µg/L	209.3		104.3	Once/quarter**	grab
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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** See table below for quarterly sampling:

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

*** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.

Note 1 – This operating permit contains Interim and Final Effluent Limitations. Please see **Part E – Schedule of Compliance 1.** located on page 12 of 12.

Note 2 – This operating permit contains a compliance schedule regarding the analytical methods for Selenium Total Recoverable and Thallium Total Recoverable. Please see **Part E – Schedule of Compliance 2.** located on page 12 of 12.

D. SPECIAL CONDITIONS

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

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
 - (c) That the effluent limit established in part A of the permit will be exceeded.
4. Report as no-discharge when a discharge does not occur during the report period.

D. SPECIAL CONDITIONS (continued)

5. Water Quality Standards

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

6. The permittee shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be prepared within 30 days and implemented within 90 days of permit issuance. The SWPPP must be kept on-site and should not be sent to DNR unless specifically requested. The SWPPP must be reviewed and updated, if needed, every five (5) years or as site conditions change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in the following document:

Storm Water Management For Industrial Activities, Developing Pollution Prevention Plans and Best Management Activities, (Document number EPA 832-R-92-006) published by the United States Environmental Protection Agency (USEPA) in September 1992.

The SWPPP must include the following:

- (a) A listing of specific Best Management Practices (BMPs) and a narrative explaining how BMPs will be implemented to control and minimize the amount of potential contaminants that may enter storm water. Minimum BMPs are listed in SPECIAL CONDITIONS #7 below.
- (b) The SWPPP must include a schedule for a bi-monthly site inspection and a brief written report. The inspections must include observation and evaluation of BMP effectiveness. Deficiencies must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report, including photographs. Any corrective measure that necessitates major construction may also need a construction permit. 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 DNR 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 DNR.

7. Permittee shall adhere to the following minimum Best Management Practices:

- (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 storm water 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.

D. SPECIAL CONDITIONS (continued)

- (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 storm water or provide other prescribed BMP's such as plastic lids and/or portable spill pans to prevent the commingling of storm water with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
 - (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. This could include the use of straw bales, silt fences, or sediment basins, if needed, to comply with effluent limits.
8. The purpose of the SWPPP and the BMPs listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.
9. Substances, regulated by federal law under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERLA), that are transported, stored, or used for maintenance, cleaning or repair, shall be managed according to RCRA and CERLA.

REPORTING OF EFFLUENT VIOLATIONS

If any of the sampling results from any of the outfalls show any violation of the permit discharge limitations, written notification shall be made to the Department of Natural Resources within five (5) days of notification of analytical results. Notification shall indicate the date(s) of sample collection, the analytical results, and permit number, and shall include a statement concerning the revisions or modifications in management practices that are being implemented to address the violation of the limitations that occurred.

After a violation has been reported, a sample of storm water runoff resulting from the next rainfall greater than 0.1 inches shall be collected at outfall(s) for which the violation occurred. Analytical results of this sample shall be submitted in writing to the Department of Natural Resources (this paragraph supersedes Part I, Section B: e.A. Noncompliance Notification).

RECORDS, RETENTION AND RECORDING

Monitoring reports shall be submitted within 28 days after the end of each quarter. All sampling data shall be maintained by the permittee for a period of five (5) years and shall be supplied to the Department of Natural Resources upon request (supersedes Part I, Section A:7. Records Retention).

E. SCHEDULE OF COMPLIANCE

1. The Final Effluent Limitations shall be met within six (6) months of the effective date of this operating permit. Due to the Interim time period being only six (6) months, the final milestone compliance date shall be six (6) months from the effective date of this operating permit. If the permittee determines that the new effluent limitations will not or can not be met by the milestone date, then the permittee shall submit a Compliance Report five (5) months from the effective date of this operating permit. The Compliance Report shall include:
- a. Reason(s) that the new effluent limitation will not or can not be met for each specific pollutant.
 - b. Steps taken by the permittee to meet the new effluent limitations for each specific pollutant.
 - c. A reasonable compliance schedule to be implemented by the permittee to meet the new effluent limitation for each specific pollutant.
2. The permittee shall use alternative analytical methods for the toxics of Selenium Total Recoverable and Thallium Total Recoverable due to the fact that the existing analytical method's Minimum Detection Limit is above the Water Quality Standards criteria for these pollutants. It is the responsibility of the permittee and their contract laboratory to determine a more appropriate and applicable analytical method for these two (2) pollutants.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
INDUSTRIAL STORM WATER RUNOFF FROM LANDFILL ACTIVITIES
STANDARD INDUSTRIAL CLASSIFICATION (SIC): 4953
FOR THE PURPOSE OF RENEWAL
OF
MO-0105023
SOUTHEAST LANDFILL, L.L.C

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

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

A Fact Sheet is not an enforceable part of an operating permit.

Part A – Applicability & Facility Description

Landfill are to obtain a MSOP in accordance the MCWL, documented above, and its implementing regulations 10 CSR 20-6.010(1)(A); 10 CSR 20-6.010(5)(A); and 10 CSR 20-6.200(1)(A). Storm water runoff from landfills are considered Industrial activities in accordance with 10 CSR 20-6.200(2)(B)3.B. Closed landfills may also be required to maintain a MSOP in accordance with 10 CSR 20.600(1)(B)10.

Facility Description:

Storm water run-off from this active landfill activity (all outfalls) is subject to Best Management Practices (BMPs), which include grass, terracing, and riprap. This facility does not utilize a storm water detention basin for primary treatment. In total this facility has approximately 122 acres of total storm water run-off with 0 acres of that being impervious surface. Actual flow is dependent upon precipitation.

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

Part B – Outfall Information & Descriptions

Please see **APPENDIX A – FACILITY LAYOUT**

OUTFALL(S) TABLE:

OUTFALL	ACTUAL FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
002	Variable	BMP*	Industrial – Storm water runoff	0.0
003	Variable	BMP*	Industrial – Storm water runoff	0.0
004	Variable	BMP*	Industrial – Storm water runoff	0.0
007	Variable	BMP*	Industrial – Storm water runoff	0.4
008	Variable	BMP*	Industrial – Storm water runoff	0.4
009	Variable	BMP*	Industrial – Storm water runoff	0.0

* - BMP means Best Management Practices.

Outfall #001 – This outfall was eliminated on March 22, 2002. WQIS indicates that storm water run-off from this previous outfall now flows to Outfalls #002, 003, 004, 007, 008 & 009.

Outfall #002 – 0 acres of impervious surface and drains a total of 11 acres
Legal Description: NW ¼, SW ¼, Sec. 14, T48N, R33W, Jackson County
Latitude/Longitude: +3859024/-09432138
Receiving Stream: Blue River (P)
First Classified Stream and ID: Blue River (P) (00419)
USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #003 – 0 acres of impervious surface and drains a total of 14 acres.
Legal Description: NW ¼, SW ¼, Sec. 14, T48N, R33W, Jackson County
Latitude/Longitude: +3858501/-09432206
Receiving Stream: Blue River (P)
First Classified Stream and ID: Blue River (P) (00419)
USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #004 – 0 acres of impervious surface and drains a total of 40 acres.
Legal Description: SE ¼, SE ¼, Sec. 15, T48N, R33W, Jackson County
Latitude/Longitude: +3858345/-09432237
Receiving Stream: Blue River (P)
First Classified Stream and ID: Blue River (P) (00419)
USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #005 – This outfall was eliminated on March 22, 2002; no reason given.

Outfall #006 – This outfall was eliminated on March 22, 2002; no reason given.

Outfall #007 – 0 acres of impervious surface and drains a total of 25 acres.
Legal Description: NW ¼, SE ¼, Sec. 15, T48N, R33W, Jackson County
Latitude/Longitude: +3858515/-09432389
Receiving Stream: Blue River (P)
First Classified Stream and ID: Blue River (P) (00419)
USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #008 – 0 acres of impervious surface and drains a total of 20 acres.
Legal Description: NE ¼, SE ¼, Sec. 15, T48N, R33W, Jackson County
Latitude/Longitude: +3858534/-09432369
Receiving Stream: Blue River (P)
First Classified Stream and ID: Blue River (P) (00419)
USGS Basin & Sub-watershed No.: (10300101 - 010070)

Outfall #009* – 0 acres of impervious surface and drains a total of 12 acres.
Legal Description: SW ¼, NW ¼, Sec. 14, T48N, R33W
Latitude/Longitude: +3859079/-09432126
Receiving Stream: Blue River (P)
First Classified Stream and ID: Blue River (P) (00419)
USGS Basin & Sub-watershed No.: (10300101 - 010070)

* - WQIS and the previous state operating permit's locational data agree; however, Outfall #009 locational data did not agree. The legal description of NW ¼, SW ¼, ... was obtained from the department's Interactive Map View Program.

Water Quality History:

Outfall #002 – Several missing DMRs (rainfall); effluent violations from 2002 to present (1) COD, (3) Chloride + Sulfate, (1) SS, and (2) TSS.

Outfall #003 – Several missing DMRs (rainfall); effluent violations from 2002 to present (1) COD, (1) SS, (2) TSS.

Outfall #004 – Several missing DMRs (rainfall); effluent violations from 2002 to present (1) SS, (3) TSS.

Outfall #007 – Several missing DMRs (rainfall); effluent violations from 2002 to present (1) COD, (1) SS, (3) TSS.

Outfall #008 – Several missing DMRs (rainfall and one BETX); effluent violations from 2002 to present (1) COD, (2) SS, (5) TSS.

Outfall #009 – Several missing DMRs (rainfall); effluent violations from 2002 to present (2) TSS.

The receiving stream is listed on the Missouri 2002 303(d) List for Chlordane from urban non-point sources.

Comments:

2006 Stream Survey indicated that no evidence of leachate was in the receiving stream and that there was no rise of Specific Conductivity was documented downstream.

Several parameters/pollutants were removed from the previous state operating permit due to the fact that they did not have any applicable beneficial use (e.g.. Protection of Aquatic Life). The parameters/pollutants are as follows: Total Dissolved Solids, Conductivity, Barium, Calcium, Boron, Sodium, Nitrate + Nitrite, Total Phosphorus, Manganese, Magnesium, Sulfate, Total Organic Carbon, and Vanadium.

Part C – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list 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 [10 CSR 20-7.015(2)]: ☐
Lake or Reservoir [10 CSR 20-7.015(3)]: ☐
Losing [10 CSR 20-7.015(4)]: ☐
Metropolitan No-Discharge [10 CSR 20-7.015(5)]: ☐
Special Stream [10 CSR 20-7.015(6)]: ☐
Subsurface Water [10 CSR 20-7.015(7)]: ☐
All Other Waters [10 CSR 20-7.015(8)]: ☒

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

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-DIGIT HUC	EDU**
Unnamed tributary to Blue River (Outfalls #007 and #008)	U	---	General Criteria	10300101	Central Plains/ Blackwater/ Lamine
Blue River	P	00419	LWW, AQL, WBC(A), SCR		

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

** - Ecological Drainage Unit

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

ANTI-BACKSLIDING:

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

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

ANTIDEGRADATION:

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

As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the Missouri Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule will be implemented upon promulgation, which is scheduled for August 2008.

COMPLIANCE AND ENFORCEMENT:

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

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

FLOW BASED PERMITTING:

A standard mass-balance equation cannot be calculated for storm water from this facility because the flow from the facility and flow in the receiving stream cannot be determined for conditions on any given day. The amount of storm water discharged from the facility will vary based on previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on similar climactic conditions, size of watershed, amount of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc.

It is likely that sufficient rainfall to cause a discharge for four continuous days from a facility will also cause some significant amount of flow in the receiving stream. Chronic WQSs are based on a four-day exposure (except Ammonia, which is based on a thirty day exposure). In the event that discharge does occur from this facility for four continuous days, some amount of flow will occur in the receiving stream. This flow will dilute storm water discharges from a facility. For these reasons, most industrial storm water facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute WQSs are based on a one hour of exposure, and must be protected at all times in unclassified streams, and within mixing zones of class P streams [10 CSR 20-7.031(3) and (4)]. Therefore, industrial storm water facilities with toxic contaminants do have the potential to cause a violation of acute WQSs if those toxic contaminants occur in sufficient amounts.

It is due to the items stated above that staff drafting this fact sheet are unable to perform statistical Reasonable Potential Analysis and calculate Wasteload Allocations via a mass-balance equation for effluent limit determination. However, staff may use their best professional judgment in determining if a facility has a potential to violate Missouri's Water Quality Standards. Effluent limitations are based on actual criteria that are subjected to Long Term Averages and then converted into Maximum Daily Limits or Average Monthly Limits.

SCHEDULE OF COMPLIANCE (SOC):

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

☒ - The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations where established in accordance with [10 CSR 20-7.031(10)]. Due to this facility using Best Management Practices as the means for treatment, staff believes that the new effluent limitations could be met within six (6) months after issuance of this operating permit.

In addition, the operating permit will contain another six (6) month SOC to address analytical methods for the toxics of Selenium Total Recoverable (Se) and Thallium Total Recoverable (Tl). The analytical method of EPA 200.7 Rev 4.4 does have a Minimum Detection Limit (MDL) that is below the Water Quality Standard criteria for both Se and Tl; however, when samples are collected and analyzed for a combination of toxics, the MDL usually increases. In this case, above the chronic criteria for both toxics. Therefore, the permittee shall be given time to work with their laboratory to determine a more appropriate analytical method or testing method.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

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

WLA MODELING:

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

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.

☒ - At this time, the permittee is not required to conduct WET test for this facility.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

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

☒ - Blue River is listed on the 2002 Missouri 303(d) List for Chlordane from urban non-point sources.

☒ - Since chlordane has been banned, there is no specific remediation plan for this impairment. The fish consumption advisory for chlordane has been discontinued since the data confirm that chlordane has declined to below the FDA action level. This is a phased TMDL in that if future data indicates fish tissue chlordane levels are not continuing to decline, this TMDL will be reopened and re-evaluated. This TMDL will be incorporated into Missouri's Water Quality Management Plan. This facility is not considered to be a source nor a contributor of this pollutant.

Part E – Effluent Limits Determination

Outfall #002, #003, #004, #007, #008, & #009 – Effluent Limitation Table:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	gpd	1	*		*	NO	
RAINFALL	Inches	9	*		*	NO	
COD	mg/L	9	90		60	YES	120/90
BOD ₅	mg/L	1/9	45		30	YES	60/45
TSS	mg/L	1	80		50	YES	80/60
pH	SU	1	6.5–9.0		6.5–9.0	YES	6.0–9.0
SETTLABLE SOLIDS	mL/L/hr	1/9	1.5		1.0	NO	
OIL & GREASE	mg/L	1/2/9	15		10	NO	
TOTAL AMMONIA AS N (OUTFALLS 002, 003, 004, 008, & 009)	mg/L	1/5/9	*		*	NO	
TOTAL AMMONIA AS N (OUTFALL #007 ONLY)	mg/L	1/5/9	12.1		4.6	YES	*/*
CHLORIDE + SULFATES	mg/L	1/2/9	1000		*	NO	
CHLORIDE	mg/L	1/2/9	859		428	YES	**
FLUORIDE	mg/L	1/9	*		*	NO	
BENZENE	µg/L	1/9	*		*	YES	***
ETHYLBENZENE	µg/L	1/9	*		*	YES	***
TOLUENE	mg/L	1/9	*		*	YES	***
TOTAL HARDNESS	mg/L	9	*		*	NO	
ANTIMONY, TR	mg/L	1/9	*		*	NO	
ARSENIC, TR	µg/L	1/2/9	32.7		16.3	YES	*/*
BERYLLIUM, TR	µg/L	1/9	*		*	NO	
CADMIUM, TR	µg/L	1/9	*		*	NO	
CHROMIUM (III), TR	µg/L	1/9	*		*	NO	
CHROMIUM (VI), TR	µg/L	1/9	*		*	NO	
COBALT, TR	µg/L	1/9	*		*	NO	
COPPER, TR	µg/L	1/2/9	25.8		12.9	YES	*/*
IRON, TR	µg/L	1/2/9	1.6		0.8	YES	*/*
LEAD, TR	µg/L	1/9	*		*	NO	
MERCURY, TR	µg/L	1/9	*		*	NO	
NICKEL, TR	µg/L	1/9	*		*	NO	
SELENIUM, TR	µg/L	1/9	*		*	NO	
SILVER, TR	µg/L	1/9	*		*	NO	
THALLIUM, TR	µg/L	1/9	*		*	NO	
ZINC, TR	µg/L	1/2/9	209.3		104.3	YES	*/*
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* - Monitoring requirement only

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

*** - Previously permitted under a combination parameter known as BETX, which the department now separates.

TR – means Total Recoverable

Basis for Limitations Codes:

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

OUTFALL #002, #003, #004, #007, #008, & #009 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. Monitoring only requirement 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 to determine an alternate location for flow monitoring.
- **Rainfall**. Monitoring only requirement. Precipitation data obtained from DMRs is used to aid in the determination of this facilities specific runoff coefficient and theoretical loading in the watershed.
- **Chemical Oxygen Demand (COD)**. Effluent limitations of 90 mg/L as a Daily Maximum and 60 mg/L as a Monthly Average are applicable to this facility and are consistent with other landfill operating permits. In addition, staff believe that these effluent limitations are protective of the receiving stream's Water Quality Standards (WQS).
- **Biochemical Oxygen Demand (BOD₅)**. Effluent limitations of 45 mg/L as a Daily Maximum and 30 mg/L as a Monthly Average are applicable to this facility and are consistent with other landfill operating permits. In addition, staff believe that these effluent limitations are protective of the receiving stream's WQS.
- **Total Suspended Solids (TSS)**. Effluent limitations of 100 mg/L as a Daily Maximum and 50 mg/L as a Monthly Average are applicable to this facility and are consistent with other landfill operating permits. However, the previous state operating permit contained an effluent limitation of 80 mg/L as a Daily Maximum; therefore, the new limitations shall be 80 mg/L as a Daily Maximum and 50 mg/L as a Monthly average in accordance with Federal Anti-backsliding statutes and regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)]. Staff believe that these effluent limitations are protective of the receiving stream's WQS.
- **pH**. Effluent limitation range is from 6.5 to 9.0 Standard pH Units (SU), as per [10 CSR 20-7.031(4)(E). pH is not to be averaged.
- **Settleable Solids**. Effluent limitations of 1.5 mL per L per hour as a Daily Maximum and 1.0 mL per L per hour as a Monthly Average are applicable and are consistent with other landfill operating permits.
- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **Total Ammonia Nitrogen (Outfalls #002, 003, 004, 008, & 009)**. Monitoring requirement only. This parameter needs further monitoring to determine if it has potential to violate Missouri's WQS.
- **Total Ammonia Nitrogen (Outfall #007 only)**. DMRs have documented that this facility has exceeded the WQS Acute Criteria for Total Ammonia Nitrogen, therefore the effluent limits calculated below are applicable. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Acute Criteria is available for Total Ammonia as N. No mixing considerations allowed; therefore, WLA = Acute Criteria.

Summer & Winter

Acute WLA = 12.1 mg/L

$$LTA_a = 12.1 \text{ mg/L } (0.321) = 3.9 \text{ mg/L}$$

[CV = 0.6, 99th Percentile]

$$MDL = 3.9 \text{ mg/L } (3.11) = 12.1 \text{ mg/L}$$

[CV = 0.6, 99th Percentile]

$$AML = 3.9 \text{ mg/L } (1.19) = 4.6 \text{ mg/L}$$

[CV = 0.6, 95th Percentile, n=30]

- **Chlorides + Sulfate**. Effluent limitation of 1000 mg/L as a Daily Maximum is applicable as per [10 CSR 20-7.031(L)1.].

- **Chlorides**. DMRs from this facility have been reviewed, and it is staff's best professional judgment (bpj) that a potential exist to violate Missouri's Water Quality Standards (WQS) due to elevated concentrations of reported Chloride + Sulfate. Due to this, this operating permit will contain effluent limitations for Chloride, but will no longer contain a monitoring only requirement for Sulfate (no applicable beneficial use protection criteria). Protection of Aquatic Life Acute Criteria of 860 mg/L is applicable as per [10 CSR 20-7.031 Table A]. No mixing considerations allowed; therefore Criteria = the WLA.

Acute WLA = 860 mg/L

LTA_a = 860 mg/L (0.321) = 276.1 mg/L

[CV = 0.6, 99th Percentile]

MDL = 276.1 mg/L (3.11) = 858.7 mg/L

[CV = 0.6, 99th Percentile]

AML = 276.1 mg/L (1.55) = 428 mg/L

[CV = 0.6, 95th Percentile, n =4]

- **Fluoride**. Monitoring requirement only. This parameter needs further monitoring to determine if it has potential violate Missouri's WQS.
- **Benzene**. Monitoring requirement only. The previous state operating permit contained a combination parameter known as BETX, which was Benzene, Ethylbenzene, Toluene, and Total Xylene. This parameter needs further monitoring to determine if it has potential to violate Missouri's WQS.
- **Ethylbenzene**. Monitoring requirement only. The previous state operating permit contained a combination parameter known as BETX, which was Benzene, Ethylbenzene, Toluene, and Total Xylene. This parameter needs further monitoring to determine if it has potential to violate Missouri's WQS.
- **Toluene**. Monitoring requirement only. The previous state operating permit contained a combination parameter known as BETX, which was Benzene, Ethylbenzene, Toluene, and Total Xylene. This parameter needs further monitoring to determine if it has potential to violate Missouri's WQS.

Metals

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in EPA/505/2-90-001 and "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion" (EPA 823-B-96-007). General warm-water fishery criteria apply and hardness of 193 mg/L (please see the derivation for Total Hardness below).

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

METAL	CONVERSION FACTORS
	ACUTE
Arsenic	1.0
Copper	0.960
Fe	1.0
Zinc	0.978

- **Total Hardness**. Monitoring only requirement due to the fact that Metals toxicity varies by hardness. The previous state operating permit contained a Total Hardness monitoring requirement, but only at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine a site-specific Total Hardness value that can be averaged (25th%).
- **Antimony, Total Recoverable**. Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.

- **Arsenic, Total Recoverable.** It is staff's bpi that a potential exist to violate Missouri's WQS due to high concentrations of reported As levels; therefore, effluent limitations are applicable. Protection of Aquatic Life Acute Criteria (CMC) has not been developed at this time for As; therefore, Protection of Aquatic Life Chronic Criteria (CCC) = 20 µg/L is applicable. No mixing allowed; therefore, the CCC = the WLA. Due to the conversion factor for Arsenic = 1.0 the conversion from dissolved solid is equal to Total Recoverable.

$$WLA_c = 20 \mu\text{g/L}$$

$$LTA_a = 20 \mu\text{g/L} (0.527) = 10.5 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{MDL} = 10.5 \mu\text{g/L} (3.11) = 32.7 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 10.5 \mu\text{g/L} (1.55) = 16.3 \mu\text{g/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile}, n = 4]$$

- **Beryllium, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Cadmium, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Chromium (III), Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only for Total Chromium; however, the Total Chromium has been separated into two (2) different species of Chromium (i.e. Chromium (III) & Chromium (VI)). The previous permit also contained a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Chromium (VI), Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only for Total Chromium; however, the Total Chromium has been separated into two (2) different species of Chromium (i.e. Chromium (III) & Chromium (VI)). The previous permit also contained a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Cobalt, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Copper, Total Recoverable.** DMRs from this facility documented that Copper (Cu) had observed maximum concentrations above the AQL CMC of 25 µg/L. Cu has a reasonable potential to violate Missouri's WQS; therefore, effluent limitations are applicable. Protection of Aquatic Life Acute Criteria (CMC) = 25 µg/L. No mixing allowed, and the CMC = the WLA after the criteria is converted from dissolved solid to a Total Recoverable criteria.

$$\text{Conversion for CMC} = 25/0.960 = 26.0 \mu\text{g/L}$$

$$WLA_a = 26.0 \mu\text{g/L}$$

$$LTA_a = 26.0 \mu\text{g/L} (0.321) = 8.3 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{MDL} = 8.3 \mu\text{g/L} (3.11) = 25.8 \mu\text{g/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 8.3 \mu\text{g/L} (1.55) = 12.9 \mu\text{g/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile}, n = 4]$$

- **Iron, Total Recoverable.** DMRs from this facility documented that Iron (Fe) had observed maximum concentrations above the AQL CCC of 1.0 mg/L. Fe has a reasonable potential to violate Missouri's WQS; therefore, effluent limitations are applicable. Protection of Aquatic Life Acute Criteria (CMC) has not been developed at this time for Fe; therefore Protection of Aquatic Life Chronic Criteria (CCC) = 1.0 mg/L is applicable. No mixing allowed, and the CCC = the WLA. Due to the conversion factor for Fe = 1.0, the conversion from dissolved solid is equal to Total Recoverable.

$$WLA_c = 1.0 \text{ mg/L}$$

$$LTA_a = 1.0 \text{ mg/L} (0.527) = 0.5 \text{ mg/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{MDL} = 0.5 \text{ mg/L} (3.11) = 1.6 \text{ mg/L} \quad [\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$\text{AML} = 0.5 \text{ mg/L} (1.55) = 0.8 \text{ mg/L} \quad [\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile}, n = 4]$$

- **Lead, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Mercury, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Nickel, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Selenium, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Silver, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Thallium, Total Recoverable.** Monitoring requirement only. The previous state operating permit contained a monitoring requirement only, but at a once per year frequency to be collected in May of each year. The parameter needs further monitoring in order to determine if it has potential to violate Missouri's WQS.
- **Zinc, Total Recoverable.** DMRs from this facility documented that Zinc (Zn) had observed maximum concentrations above or near the AQL CMC criteria of 186 µg/L; therefore it is staff's bpj that Zinc has potential to violate Missouri's WQS. Protection of Aquatic Life Acute Criteria (CMC) = 205 µg/L is applicable. No mixing allowed; therefore, the CMC = the WLA after conversion from a dissolved to Total Recoverable criteria.

Conversion for CMC = $205/0.978 = 209.6 \mu\text{g/L}$

$\text{WLA}_a = 209.6 \mu\text{g/L}$

$\text{LTA}_a = 209.6 \mu\text{g/L} (0.321) = 67.3 \mu\text{g/L}$

[CV = 0.6, 99th Percentile]

$\text{MDL} = 67.3 \mu\text{g/L} (3.11) = 209.3 \mu\text{g/L}$

[CV = 0.6, 99th Percentile]

$\text{AML} = 67.3 \mu\text{g/L} (1.55) = 104.3 \mu\text{g/L}$

[CV = 0.6, 95th Percentile, n = 4]

- **Minimum Sampling and Reporting Frequency Requirements.** The previous state operating permit contained sampling frequencies of once per quarter and once per year. For this operating permit and perhaps future permits, all pollutants/parameters will have a sampling and reporting frequency of once per quarter, which will satisfy the informational needs of the department [10 CSR 20-7.015(C)(4)]. By obtaining more data, staff will be able to justify: (1) effluent limitations, (2) continued or reductions to monitoring only requirements, or (3) removal of the pollutant/parameter altogether.

Part F – 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:

As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

☒ - A previous Public Notice period for this operating permit was from January 18, 2008, to February 18, 2008. However, the department was conducting a review of landfill activities in order to bring consistency to Missouri State Operating Permits. On June 26, 2008, the Water Protection Program developed a Missouri State Operating Permit and Fact Sheet template for Landfill Activities (template). This operating permit and fact sheet has been drafted under the guidance of the template. Due to several parameters/pollutants being redeveloped and recalculated, it is staff belief that an addition Public Notice period is needed, which is tentatively scheduled to begin on September 5, 2008, or is in process.

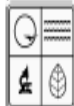
During the Public Notice from September 5, 2008, to October 8, 2008, the only comments received were from in-house QA/QC staff regarding receiving stream outfall and the Legal Description for Outfall #009. Both items were addressed in-house.

DATE OF FACT SHEET: AUGUST 12, 2008

COMPLETED BY:

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APPENDIX A – FACILITY LAYOUT



Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.