

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-0000809

Owner: Buzzi Unicem USA
Address: PO Box 520, Cape Girardeau, MO 63702

Continuing Authority: Same as above
Address: Same as above

Facility Name: Lone Star Industries, Inc. dba Buzzi Unicem USA
Facility Address: 2524 South Sprigg Street, Cape Girardeau, MO 63703

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.: (07140105-0503)

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) FOR FACILITY DESCRIPTION.

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.

February 11, 2010 May 23, 2014
Effective Date Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

February 10, 2015
Expiration Date

John Madras, Director, Water Protection Program

Facility Description (continued)

Outfall #001 - Cement Plant/Quarry- SIC #3241

Stormwater runoff, quarry dewatering/ Non-contact cooling water/Equipment wash water

Legal Description: NE ¼ SW ¼ Sec. 19, T30N, R14E

UTM Coordinates: x= 807215; y= 4128749

Receiving Stream: Borrow Pit to Dutchtown Ditch

First Classified Stream and ID: Dutchtown Ditch (P) (02193)

USGS Basin & Sub-watershed No.: (07140105-0503)

Design flow is 1.36 MGD.

Actual flow is precipitation dependant.

Outfall #002- Stormwater Runoff/Waste dust wetting- SIC# 3241

Stormwater runoff from gypsum and silica stock piles

Legal Description: NW¼, SE¼, Sec. 18, T30N, R14E

UTM Coordinates: x= 807417; y= 4130097

Receiving Stream: Unnamed Tributary to Dutchtown Ditch

First Classified Stream and ID: Dutchtown Ditch (P) (02193)

USGS Basin & Sub-watershed No.: (07140105-0503)

Actual flow is precipitation dependant.

Outfall #003 - Domestic Sanitary Flows- SIC #4952

Extended aeration/sludge disposal is by contract hauler.

Legal Description: NE¼, SW¼, Sec. 18, T30N, R14E

UTM Coordinates: x= 806820; y= 4130189

Receiving Stream: Ditch to Borrow Pit to Dutchtown Ditch

First Classified Stream and ID: Dutchtown Ditch (P) (02193)

USGS Basin & Sub-watershed No.:(07140105-0503)

Design population equivalent is 120

Design flow is 5,000 gallons per day (0.005 MGD).

Actual flow is 2,700 gallons per day (0.0027 MGD).

Design sludge production is 2.52 dry tons/year.

Outfall #004 - Stormwater Runoff/Quarry- SIC #3241

Stormwater Runoff; quarry dewatering

Legal Description: SW¼, SE¼, Sec. 07, T30N, R14E

UTM Coordinates: x= 807282; y= 4131361

Receiving Stream: Cape La Croix Creek (P)

First Classified Stream and ID: Cape La Croix Creek (P) (01836)

USGS Basin & Sub-watershed No.: (07140105-0503)

Actual flow is precipitation dependant.

Outfall #005- Internal Compliance Point prior to Outfall 001- SIC #3241

Quarry Dewatering

Legal Description: NW ¼ SE ¼ Sec. 19, T30N, R14E

UTM Coordinates: x= 807223; y= 4128725

Receiving Stream: Borrow Pit to Dutchtown Ditch

First Classified Stream and ID: Dutchtown Ditch (P) (02193)

USGS Basin & Sub-watershed No.:(07140105-0503)

Outfall #006- Internal Compliance Point prior to Outfall 002- SIC#3241

Stormwater, emergency discharge from secondary containment

Legal Description: NW¼, SE¼, Sec. 18, T30N, R14E

UTM Coordinates: x= 807296; y= 4130184

Receiving Stream: Unnamed Tributary to Dutchtown Ditch

First Classified Stream and ID: Dutchtown Ditch (P) (02193)

USGS Basin & Sub-watershed No.: (07140105-0503)

Design flow is 179,000 gallons. Actual flow is precipitation dependant.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS	PAGE NUMBER 3 of 14 PERMIT NUMBER MO-0000809
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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 **February 10, 2013** 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 FREQUENCY	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>OUTFALL #001</u> (NOTE 1 &6) Settleable Solids	mL/L/hr	*		*	once/quarter****	grab
<u>OUTFALL #002</u> (NOTE 2) Settleable Solids	mL/L/hr	*		*	once/quarter****	grab
<u>OUTFALL #004</u> (NOTE 6) Settleable Solids	mL/L/hr	*		*	once/discharge	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2010.

Final Effluent Limits for Outfalls 001, 002, & 004 are below.

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 **February 11, 2013** from the effective date of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING FREQUENCY	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>OUTFALL #001</u> (NOTE 1 &6) Settleable Solids	mL/L/hr	1.5		1.0	once/quarter****	grab
<u>OUTFALL #002</u> (NOTE 2) Settleable Solids	mL/L/hr	1.5		1.0	once/quarter****	grab
<u>OUTFALL #004</u> (NOTE 6) Settleable Solids	mL/L/hr	1.5		1.0	once/discharge event (Note 8)	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2013. 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 PARTS I & III STANDARD CONDITIONS DATED OCTOBER 1, 1980 AND AUGUST 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

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 **2 years and 364 days** after the effective date of this permit modification. 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 FREQUENCY	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>OUTFALL #003</u> (NOTES 3 & 4)						
Escherichia coliform	#colonies/100mL	*		*	once/quarter****	grab
Total Residual Chlorine (NOTE 5)	mg/L	*		*	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE OCTOBER 28, 2011.

Final Effluent Limits for Outfalls 003 are below.

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 **3 years** from the effective date of this permit modification and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING FREQUENCY	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>OUTFALL #003</u> (NOTE S 3 & 4)						
Escherichia coliform	#colonies/100mL	1030		260	once/quarter****	grab
Total Residual Chlorine (NOTE 5)	mg/L	0.017 0.13 ML		0.008 0.13 ML	once/quarter****	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE _____. 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 PARTS I & III STANDARD CONDITIONS DATED OCTOBER 1, 1980 AND AUGUST 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PAGE NUMBER 5 of 14
 PERMIT NUMBER MO-0000809

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

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING FREQUENCY	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>OUTFALL #001</u> (NOTE S1 &6)						
Flow	MGD	*		*	once/quarter****	24 hr. estimate
Total Suspended Solids	mg/L	50		50	once/quarter****	grab
pH	SU	**		**	once/quarter****	grab
Temperature	°C	32.2		32.2	once/quarter****	grab
Oil & Grease	mg/L	15		10	once/quarter****	grab
<u>OUTFALL #002</u> (NOTE 2)						
Flow	MGD	*		*	once/quarter****	24 hr. estimate
Total Suspended Solids	mg/L	50		50	once/quarter****	grab
pH	SU	**		**	once/quarter****	grab
Temperature	°C	32.2		32.2	once/quarter****	grab
Sulfate	mg/l	*		*	once/quarter****	grab
<u>OUTFALL #003</u> (NOTE 3)						
Flow	MGD	*		*	once/quarter****	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L		45	30	once/quarter****	grab
Total Suspended Solids	mg/L		45	30	once/quarter****	grab
pH	SU	**		**	once/quarter****	grab
Temperature	°C	*		*	once/quarter****	grab
Ammonia	mg/L	*		*	once/quarter****	grab
<u>OUTFALL #004</u> (NOTE 6)						
Flow	MGD	*		*	once/discharge event (Note 8)	24 hr. estimate
Total Suspended Solids	mg/L	50		50	once/discharge event (Note 8)	grab
pH	SU	**		**	once/discharge event (Note 8)	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2010. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

<u>Outfall #001</u> Whole Effluent Toxicity (WET) test	% Survival	See Special Conditions #14	once/year	24 hr. composite
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MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2011.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED PARTS I & III STANDARD CONDITIONS DATED OCTOBER 1, 1980 AND AUGUST 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS				PAGE NUMBER 6 of 14		
				PERMIT NUMBER MO-0000809		
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 90 days from the effective date of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING FREQUENCY	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>OUTFALL #005</u> (NOTE 6)						
Flow	MGD	*		*	once/quarter****	24 hr. estimate
pH	SU	***		***	once/quarter****	grab
<u>OUTFALL #006</u> (NOTE 9)		See Section D			once/discharge	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2010</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 Parts I & III STANDARD CONDITIONS DATED OCTOBER 1, 1980 AND AUGUST 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitoring requirement only.

** 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 per 10 CSR 20-7.015(2)(A)2 and 10 CSR 20-7.015(8)(A)2.

*** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units per 40 CFR 411.32(a).

**** 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

Note 1- The 300-acre borrow pit which ultimately receives the wastewater flow from Outfall#001 and Outfall #003 discharges to Dutchtown Ditch which discharges to the Mississippi River. Wastewater is to be sampled at the inlet structure to the borrow pit. If the inlet structure and borrow pit are flooded by the Mississippi during the quarter, report "FLOODED" and the months during which flooding conditions existed.

Note 2- Sampling shall be done once per quarter during any precipitation event of the quarter that causes stormwater runoff from the preliminary gypsum and silica storage area. If the area of stockpiling is flooded by the Mississippi River during the quarter, report "FLOODED" and the months during which flooding conditions existed.

Note 3- Sampling for Outfall #003 will be from the effluent of the extended aeration plant.

Note 4 - Final limitations and monitoring requirements for Escherichia coliform are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for Escherichia coliform is expressed as a geometric mean.

Note 5- This permit contains a Total Residual Chlorine (TRC) limit.

(a) This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

- (b) Disinfection is required year-round unless the permit specifically states that “Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.” If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- (c) Do not chemically dechlorinate **if it is not needed to meet the limits in your permit**.
- (d) If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as “0 mg/L” TRC.

Note 6 Quarry dewatering activities shall occur during dry weather flow.

Note 7 Any untreated flow from a greater than 10-year, 24-hour rainfall event is exempt from TSS and pH limits, but not the other limits. (40 CFR 411.32 b).

Note 8 Once per discharge event except during conditions that forced discharging to occur for periods over multiple months, then sampling and monitoring shall occur once per month (once/month) until the event ceases. On discharge monitoring reports, the facility shall report when discharging began and when it ceased, along with the cause of the discharge, ie: flooding.

Note 9 See Section D on page 12 of this permit. Stormwater discharges from the hazardous waste tank farm shall be minimized as much as possible. Levels must be below the water quality based effluent limits listed below. If levels are below, the facility may discharge immediately.

C. SPECIAL CONDITIONS

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

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

2. All outfalls must be clearly marked in the field.
3. For Outfall 003, Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

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

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established 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.
5. Report as no-discharge when a discharge does not occur during the report period.

6. 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.

C. SPECIAL CONDITIONS (continued)

7. 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 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:

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.

The SWPPP must include the following:

- (a) An assessment of all storm water discharges associated with this facility. This must include a list of potential contaminants and an annual estimate of amounts that will be used in the described activities.
 - (b) 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 #8 below.
 - (c) 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, and corrective measures that will be taken. Deficiencies must be corrected within seven days. Inspection reports must be kept on site with the SWPPP. These must be made available to DNR personnel upon request.
 - (d) A provision for designating an individual to be responsible for environmental matters.
 - (e) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of DNR.
8. 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.
 - (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 solid waste 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.
9. All fueling facilities present on the site shall adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers, including spill prevention, control and counter measures.
10. Before releasing water that has accumulated in secondary containment areas it must be examined for hydrocarbon odor and presence of a sheen. When the presence of hydrocarbons is indicated, and at a minimum of once/quarter, this water must be tested for all hydrocarbon parameters listed in Effluent Limitations and Monitoring Requirements. Water shall be taken to a WWTP for treatment before release if it does not meet state requirements.
11. 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.

C. SPECIAL CONDITIONS (continued)

12. Reporting of Effluent Violations

- (a) 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.
- (b) 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.
- (c) 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).

13. Records, Retention and Recording

- (a) Monitoring reports shall be submitted within 28 days after the end of each quarter.
- (b) 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).
- (c) A copy of all of the sampling data must be submitted with an application for reissuance of this permit.

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

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT				
OUTFALL	AEC	FREQUENCY	SAMPLE TYPE	MONTH
001	100%	ANNUALLY	MULTIPLE	Sample in any month, Report in January

Dilution Series						
100%	50%	25%	12.5%	6.25%	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

(a) Test Schedule and Follow-Up Requirements

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

C. SPECIAL CONDITIONS

14(a)(1) continued- WET Testing

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

C. SPECIAL CONDITIONS

14(c) continued- WET Testing

- (3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
- (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (6) Unless otherwise specified above, multiple-dilution tests will be run with:
 - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, ½ AEC and ¼ AEC;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) Reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
- (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

D. EMERGENCY STORMWATER DISCHARGES FROM HAZARDOUS WASTE TANK FARM

1. Stormwater discharges from the hazardous waste tank farm shall be minimized as much as possible. Prior to discharging, the water must be sampled for the following constituents. Levels must be below the water quality based effluent limits listed below. If levels are below, the facility may discharge immediately.
2. If any parameter exceeds the water quality based effluent limit, the facility must seek out a different disposal method.
3. The facility shall submit the sampling results to the Department 28 days after the samples were collected. If samples exceeded the water quality based effluent limits, method of disposal must be included.

PARAMETER	UNIT	EFFLUENT LIMIT	SAMPLE TYPE
FLOW	GPD	*	total
Benzene	µg/L	71	grab
Tetrachloroethylene	µg/L	8.85	grab
Trichlorethylene	µg/L	80	grab
1,1,1-Trichloroethane	mg/L	*	grab
1,2,4-Trimethylbenzene	mg/L	2.30	grab
2- Butanone	mg/L	252.5	grab
2-Propanol	mg/L	*	grab
4-methyl-2-pentanone	mg/L	143.8	grab
Ethylbenzene	mg/L	0.30	grab
Ispropylbenzene	mg/L	0.80	grab
m-Cresol	mg/L	2.6	grab
Methyl methacrylate	mg/L	37.6	grab
Methylene Chloride	mg/L	1.6	grab
Naphthalene	mg/L	*	grab
O-Cresol	mg/L	3.0	grab
Phenol	mg/L	0.10	grab
Stryrene	mg/L	*	grab
Toluene	mg/L	200	grab
Xylene	mg/L	*	grab

E. OUTFALL 003: SCHEDULE OF COMPLIANCE FOR ESCHERICHIA COLIFORM

The final effluent limits shall become effective as soon as possible but no later than three years from permit modification issuance, in accordance with the conditions below.

1. Within one hundred eighty days (180 days) from issuance of the permit modification, the permittee shall submit a construction permit application and an activity schedule toward meeting final effluent limits to the Southeast Regional Office. If the permittee determine the design flow of the treatment plant will increase, an Antidegradation Review is required.
2. Within one year of issuance of the permit modification, the permittee shall report progress made in attaining compliance with the final effluent limits.
3. Within two years of issuance of the permit modification, the permittee shall submit a report detailing progress made in attaining compliance with the final effluent limits.
4. If the permittee will fail to meet any of the interim dates above, the permittee shall notify the Department in writing of the reason for non compliance no later than 14 days following each interim date.
5. Upon completion of construction, the permittee submit a Statement of Work complete and signed by the owner and licensed professional engineer in the state of Missouri.

SUMMARY OF TEST METHODOLOGY FOR ACUTE WHOLE-EFFLUENT TOXICITY TESTS

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

Test conditions for *Ceriodaphnia dubia*:

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

Test conditions for *Pimephales promelas*:

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

Missouri Department of Natural Resources
FACT SHEET
FOR THE PURPOSE OF MODIFICATION
OF
MO-0000809
BUZZI UNICEM, USA DBA LONE STAR INDUSTRIES, INC.

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

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

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

Part I – Facility Information

Facility Type: IND
Facility SIC Code(s): 3241

Facility Description:

Lone Star Industries, Inc. dba Buzzi Unicem, USA produces Portland cement at the Cape Girardeau Plant. Outfall #001 is stormwater runoff, quarry dewatering, non-contact cooling water and equipment wash water. Outfall #002 is storm water runoff from gypsum and silica stock piles and waste dust wetting. Outfall #003 is domestic sanitary waste that is treated by extended aeration. Outfall #004 is stormwater runoff and quarry dewatering. Outfall #005 is an internal compliance point for the effluent leaving the quarry sump before it is diluted with stormwater and non-contact cooling water, per 40 CFR 436.22. Internal Compliance locations are not required for the non-contact cooling water streams. See Appendix A for facility location map. Appendix B is the flow diagram provided by the facility.

The facility is also covered by an Air Pollution Operating Permit (2903100021), a Hazardous Waste Permit (MOD981127319), and a Land Reclamation Permit (MO0376).

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

In the facility's evaluation of the domestic wastewater treatment system (Outfall 003) for the addition of disinfection, the permittee determined the wastewater treatment system needed to be upgraded and potentially expanded to meet the usage demands from the facility and to meet the more stringent water quality standards. The facility is being provided up to three years from the permit modification to meet the upgrades and disinfection requirements. This modification changes the indicator bacteria from fecal coliform to E. Coli. The sampling requirements on Outfall 004 were adjusted to once per discharge event. On rare occasions, the facility needs to discharge water from the hazardous waste tank farm through Outfall 006. Rather than leaving it as a case-by-case situation, the conditions are being incorporated into the permit. Since the permit was issued in 2010, the state's pH water quality standard has changed. Based on the review of discharge monitoring reports, the facility already meets the pH change for Outfalls #001-004. The receiving stream for Outfall 002 was corrected based on the attached map (Appendix A).

2010 renewal: Addition of settleable solid permit limits on Outfalls 001, 002, and 004. Fecal Coliform limits and Ammonia monitoring were added to Outfall 003, as it is 1.5 miles from Dutchtown Ditch, which is classified with whole body contact. Class P state default low values used for Outfall 004's discharge into Cape LaCroix Creek. An internal compliance point is required to be established for Outfall 001. 10 CSR 20-7.015(9)(B) states the "dilution of treated wastewater with cooling water or other less contaminated water to lower the effluent concentration to limits required by an effluent regulation shall not be an acceptable means of treatment." Outfall #005 is the internal compliance point for the effluent leaving the quarry sump before it is diluted with stormwater and non-contact cooling water, per 40 CFR 436.22.

Application Date: 06/22/2009
 Expiration Date: 12/22/2009
 Last Inspection: 03/25/2009

In Compliance

OUTFALLS TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	RECEIVING STREAM	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	2.11	BMPs	STORMWATER RUNOFF; COOLING WATER	DUTCHTOWN DITCH	0.5
002	VARIES	SETTLING BASIN	STORMWATER RUNOFF; WASTE DUST WETTING	DUTCHTOWN DITCH	1.4
003	0.078	EXTENDED AERATION	DOMESTIC	DUTCHTOWN DITCH	1.5
004	INTERMITTENT	BMPs	STORMWATER RUNOFF; QUARRY DEWATERING	CAPE LA CROIX CREEK	0.00
005	INTERMITTENT	BMPs	QUARRY DEWATERING	DUTCHTOWN DITCH	0.5
006	INTERMITTENT	BMPs	STORMWATER RUNOFF; SECONDARY CONTAINMENT	DUTCHTOWN DITCH	1.5

Outfall #001 - Cement Plant/Quarry- SIC #3241

Stormwater runoff, quarry dewatering/ Non-contact cooling water/Equipment wash water
 Legal Description: NE ¼ SW ¼ Sec. 19, T30N, R14E
 UTM Coordinates: x= 807215; y= 4128749
 Receiving Stream: Borrow Pit to Dutchtown Ditch
 First Classified Stream and ID: Dutchtown Ditch (P) (02193)
 USGS Basin & Sub-watershed No.: (071401050801)
 Design flow is 1.36 MGD. Actual flow is precipitation dependant.

Outfall #002- Stormwater Runoff/Waste dust wetting- SIC# 3241

Stormwater runoff from gypsum and silica stock piles
 Legal Description: NW¼, SE¼, Sec. 18, T30N, R14E
 UTM Coordinates: x= 807417; y= 4130097
 Receiving Stream: Unnamed Tributary to Dutchtown Ditch
 First Classified Stream and ID: Dutchtown Ditch (P) (02193)
 USGS Basin & Sub-watershed No.: (071401050801)
 Actual flow is precipitation dependant.

Outfall #003 - Domestic Sanitary Flows- SIC #4952

Extended aeration/sludge disposal is by contract hauler.
 Legal Description: NE¼, SW¼, Sec. 18, T30N, R14E
 UTM Coordinates: x= 806820; y= 4130189
 Receiving Stream: Ditch to Borrow Pit to Dutchtown Ditch
 First Classified Stream and ID: Dutchtown Ditch (P) (02193)
 USGS Basin & Sub-watershed No.:(071401050801)
 Design population equivalent is 120.
 Design flow is 5,000 gallons per day (0.005 MGD). Actual flow is 2,700 gallons per day (0.0027 MGD).

Outfall #004 - Stormwater Runoff/Quarry- SIC #3241

Stormwater Runoff; quarry dewatering
 Legal Description: SW¼, SE¼, Sec. 07, T30N, R14E
 UTM Coordinates: x= 807282; y= 4131361
 Receiving Stream: Cape La Croix Creek (P)
 First Classified Stream and ID: Cape La Croix Creek (P) (01836)
 USGS Basin & Sub-watershed No.: (071401050801)
 Actual flow is precipitation dependant.

Outfall #005- Quarry Dewatering, Internal Compliance Point prior to Outfall 001- SIC #3241

Legal Description: NW ¼ SE ¼ Sec. 19, T30N, R14E
 UTM Coordinates: x= 807223; y= 4128725
 Receiving Stream: Borrow Pit to Dutchtown Ditch
 First Classified Stream and ID: Dutchtown Ditch (P) (02193)
 USGS Basin & Sub-watershed No.: (071401050801)

Outfall #006- Internal Compliance Point prior to Outfall 002- SIC#3241

Stormwater, emergency discharge from secondary containment
 Legal Description: NW¼, SE¼, Sec. 18, T30N, R14E
 UTM Coordinates: x= 807296; y= 4130184
 Receiving Stream: Unnamed Tributary to Dutchtown Ditch
 First Classified Stream and ID: Dutchtown Ditch (P) (02193)
 USGS Basin & Sub-watershed No.: (071401050801)
 Design flow is 500,000 gallons. Actual flow is precipitation dependant.

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

Upon review of the discharge monitoring data for the 2004-2009 permit cycle, only TSS exceedances were reported:
 Outfalls 001 & 002- TSS exceedance 5/31/2008
 Outfall 004- TSS exceedances 5/31/2007, 3/31/2008 and 4/30/2008

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation.

Not Applicable : This facility is not required to have a certified operator.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

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

- Missouri or Mississippi River [10 CSR 20-7.015(2)]:
- 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*	12-DIGIT HUC	EDU**
UNNAMED TRIBUTARIES TO DUTCHTOWN DITCH	U	--	GENERAL CRITERIA	071401050801	OZARK/UPPER ST. FRANCIS/CASTOR
DUTCHTOWN DITCH	P	2193	AQL, LWW, WBC(B)		
CAPE LACROIX CREEK (NOTE 1)	P	1836	AQL, LWW, WBC(B)		OZARK/APPLE/JOACHIM

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

** Ecological Drainage Unit

Note 1- UAA conducted in May 2007 and approved on November 17, 2007 for Cape LaCroix Creek with the draft recommendation to remove WBC use. However until such time that the regulations are revised, the WBC protection shall remain.

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	RECEIVING STREAM	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	2.11	BMPs	STORMWATER RUNOFF; COOLING WATER	DUTCHTOWN DITCH	0.5
002	VARIES	SETTLING BASIN	STORMWATER RUNOFF; WASTE DUST WETTING	MISSISSIPPI RIVER	0.0
003	0.078	EXTENDED AERATION	DOMESTIC	DUTCHTOWN DITCH	1.5
004	INTERMITTENT	BMPs	STORMWATER RUNOFF; QUARRY DEWATERING	CAPE LA CROIX CREEK	0.00
005	INTERMITTENT		QUARRY DEWATERING	DUTCHTOWN DITCH	

- **OUTFALLS #001- #003-BORROW PIT TO DUTCHTOWN DITCH**
Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].
Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].
- **OUTFALL #004-CAPE LA CROIX CREEK**
Mixing Zone: Mixing zone ¼ of stream width, cross-sectional area or volume of flow. [10 CSR 20-7.031(4)(A)4.B.(II)(a)]
Zone of Initial Dilution: One-tenth (0.1) of the mixing zone width, cross-sectional area or volume of flow [10 CSR 20-7.031(4)(A)4.B.(II)(b)]

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions**ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

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

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

ANTI-BACKSLIDING:

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

- All limits in this operating permit 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.

- Modification no degradation proposed and no further review necessary. The facility is planning on upgrading and redesigning the wastewater treatment plant. In discussions with the facility, the design flow of the plant is not expected to increase and no new pollutants of concern will be introduced. The schedule of compliance was developed to allow time for an antidegradation review, if the facility decides the flow needs expanded.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

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

BIOSOLIDS & SEWAGE SLUDGE:

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

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

COMPLIANCE AND ENFORCEMENT:

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

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

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)]. Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Not Applicable : The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

REASONABLE POTENTIAL ANALYSIS (RPA):

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

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

REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

Not Applicable : Influent monitoring is not being required to determine percent removal.

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

Sanitary Sewer Overflows (SSOs) are defined as an untreated or partially treated sewage release are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSO's have a variety of causes including blockages, line breaks, and sewer defects that allow excess storm water and ground water to (1) enter and overload the collection system, and (2) overload the treatment facility. Additionally, SSO's can be also be caused by lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations. Additionally, Missouri RSMo §644.026.1 mandates that the Department require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities.

Not applicable . This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):

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

Applicable : The time given for effluent limitations of this permit listed under Interim Effluent Limitation and Final Effluent Limitations were established in accordance with [10 CSR 20-7.031(10)]. The facility has a schedule of compliance of three years from permit modification to upgrade the wastewater treatment plant and add disinfection. The extension in time from the previous permit was to allow the Antidegradation Process to be completed if necessary.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

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

In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

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

VARIANCE:

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

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

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

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

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

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

Where C = downstream concentration

C_s = upstream concentration

Q_s = upstream flow

C_e = effluent concentration

Q_e = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID). Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":

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

WLA MODELING:

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

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

WATER QUALITY STANDARDS:

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

WHOLE EFFLUENT TOXICITY (WET) TEST:

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

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

Facility is a designated Major.

40 CFR 122.41(M) - BYPASSES:

The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from "bypassing" untreated or partially treated sewage (wastewater) beyond the headworks. A bypass, which includes blending, is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-2.010(11) defines a bypass as the diversion of wastewater from any portion of wastewater treatment facility or sewer system to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri's Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

- Not Applicable, this facility does not bypass.

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

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs. A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

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

Part V – Effluent Limits Determination

Outfall #001 – Main Facility Outfall

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	
TSS	MG/L	1,3	50		50	NO	
pH	SU	1,2	**		**	YES	6.0-9.0
TEMPERATURE	°C	1,2,9	32.2		32.2	YES	90 °F
OIL AND GREASE	MG/L	1	15		10	NO	
SETTLABLE SOLIDS	ML/L/HR		*/1.5		*/1.0	YES	***
WHOLE EFFLUENT TOXICITY (WET) TEST	% Survival	11	Please see WET Test in the Derivation and Discussion Section below.				
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* Monitoring requirement only.

** 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.

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

Basis for Limitations Codes:

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

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**. TSS limits are from 40 CFR § 411.32.
- **pH.** pH shall be maintained in the range from six and half to nine (6.5-9.0) standard units. [10 CSR 20-7.015(8)(A)2.] Based on a review of the facility’s discharge monitoring reports, the facility can meet the change without a schedule of compliance.
- **Temperature.** The stream temperature beyond the mixing zone shall not exceed 32 2/9 °C (32.22 °C) due to the effluent. [10 CSR 20-7.031(4)(D)]

- **Settleable Solids** In the absence of effluent regulation, Best Professional Judgment used to set effluent limits consistent with other industrial stormwater facilities. Daily maximum 1.5 ml/L/hr., monthly average 1.0 ml/L/hr.
- **Oil & Grease.** Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- **WET Test.** WET Testing schedules and intervals are established in accordance with the Department’s Permit Manual; Section 5.2 *Effluent Limits / WET Testing for Compliance Bio-monitoring*. It is recommended that WET testing be conducted during the period of lowest stream flow.
 - Acute
 - No less than ONCE/YEAR:**
 - Facility is designated as a Major facility or has a design flow \geq 1.0 MGD.

Acute and/or Chronic Allowable Effluent Concentrations (AECs) for facilities that discharge to unclassified streams is 100%, 50%, 25%, 12.5%, & 6.25%.

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

Outfall #002 – Stormwater runoff from gypsum and silica stock piles

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	No	
OIL AND GREASE	MG/L	1,2	15		10	No	
TSS	MG/L	1,2	50		50	No	
PH	SU	1	**		**	YES	6.0-9.0
SETTLEABLE SOLIDS	ML/L/HR		*/1.5		*/1.0	YES	***
TEMPERATURE	°C	1,2	32.2		32.2	YES	90 °F
SULFATE	MG/L	1,2,9	*		*	YES	***
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

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

Basis for Limitations Codes:

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

OUTFALL #002– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.** Limits for TSS are from 40 CFR § 411.32.
- **pH.** pH shall be maintained in the range from six and half to nine (6.5-9.0) standard units. [10 CSR 20-7.015(8)(A)2.] Based on a review of the facility’s discharge monitoring reports, the facility can meet the change without a schedule of compliance.

- **Temperature.** The stream temperature beyond the mixing zone shall not exceed 32 2/9 °C (32.22 °C) due to the effluent. [10 CSR 20-7.031(4)(D)]
- **Sulfate.** Monitoring requirement only. Monitoring for sulfate is included to determine whether “reasonable potential” to exceed water quality standards exists. The department will review the submitted sulfate data to determine if limitations will be required or if the parameter can be removed from the permit.
- **Settleable Solids.** In the absence of effluent regulation, Best Professional Judgment used to set effluent limits consistent with other industrial stormwater facilities. Daily maximum 1.5 ml/L/hr., monthly average 1.0 ml/L/hr.
- **Minimum Sampling and Reporting Frequency Requirements.** Addition of Sulfate and Settleable Solids monitoring. Sampling and reporting frequency requirements have been retained from previous state operating permit.

Outfall #003– Discharges to Ditch to Borrow Pit (through Outfall 001) to Dutchtown Ditch

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	No	
BOD ₅	MG/L	1,2		45	30	No	
TSS	MG/L	1,2		45	30	No	
pH	SU	1,2	**		**	YES	6.0-9.0
TEMPERATURE	°C	5, 9	*		*	YES	****
AMMONIA AS N	MG/L	1,5,9	*		*	YES	****
ESCHERICHIA COLI F	***	1,2	*/1030		*/206	YES	****
TOTAL RESIDUAL CHLORINE	MG/L	1,2	0.017		0.008	YES	****/NOTE 1
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* Monitoring requirement only.

** 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.

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

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

Note 1- Total Residual Chlorine effluent limits are listed only for informational purposes at this time. If chlorine is used, the permit will be modified to include TRC as an effluent limit.

Basis for Limitations Codes:

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

OUTFALL #003– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD₅).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- **Total Suspended Solids (TSS).** 45 mg/L as a Weekly Average and 30 mg/L as a Monthly Average. Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.

- **pH.** pH shall be maintained in the range from six and half to nine (6.5-9.0) standard units. [10 CSR 20-7.015(8)(A)2.] Based on a review of the facility's discharge monitoring reports, the facility can meet the change without a schedule of compliance.
- **Temperature.** Monitoring requirement due to the toxicity of Ammonia varies by temperature.
- **Total Ammonia Nitrogen.** Monitoring requirement only. Monitoring for ammonia is included to determine whether "reasonable potential" to exceed water quality standards exists. Upon renewal, a reasonable potential analysis will be conducted to determine the need for the ammonia limits.
- **Escherichia coli (E. coli).** Monthly average of 206 per 100 ml as a geometric mean and Daily Maximum of 1030 during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.031(4)(C). Daily Maximum effluent variability will be evaluated in development of a future effluent limit. An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d). Per the Clean Water Commission directive, sampling requirement is consistent with other parameters at once per quarter.
- **Total Residual Chlorine (TRC).** If chlorine is used for disinfection, the permit will need modified to include TRC limits. Below are the limits the permit would be modified to include. Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

$$\text{Chronic WLA: } C_e = ((0.008 + 0.0)10 - (0.0 * 0.0))/0.008$$
$$C_e = 10 \mu\text{g/L}$$

$$\text{Acute WLA: } C_e = ((0.008 + 0.0)19 - (0.0 * 0.0))/0.008$$
$$C_e = 19 \mu\text{g/L}$$

$$\text{LTA}_c = 10 (0.527) = 5.3 \mu\text{g/L}$$

$$\text{LTA}_a = 19 (0.321) = 6.1 \mu\text{g/L}$$

$$\text{MDL} = 5.3 (3.11) = 16.5 \mu\text{g/L}$$

$$\text{AML} = 5.3 (1.55) = 8.2 \mu\text{g/L}$$

$$[\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$[\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$[\text{CV} = 0.6, 99^{\text{th}} \text{ Percentile}]$$

$$[\text{CV} = 0.6, 95^{\text{th}} \text{ Percentile, } n = 4]$$

Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

- **Minimum Sampling and Reporting Frequency Requirements.** Sampling frequency increased from once per year to once per quarter to protect the beneficial uses on Dutchtown Ditch and to provide sampling results for a reasonable potential analysis to be performed upon renewal.

Outfall #004 – Discharges to Cape LaCroix Creek

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	NO	
TSS	MG/L	1	50		50	NO	
pH	SU	1	**		**	YES	6.0-9.0
SETTLABLE SOLIDS	ML/L/HR	9	*/1.5		*/1.0	YES	***
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

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

Basis for Limitations Codes:

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

OUTFALL #004– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Total Suspended Solids (TSS).** Effluent limitations from the previous state operating permit have been reassessed and verified that they are still protective of the receiving stream’s Water Quality. Therefore, effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information.** Limits for TSS are from 40 CFR § 411.32.
- **pH.** pH shall be maintained in the range from six and half to nine (6.5-9.0) standard units. [10 CSR 20-7.015(8)(A)2.] Based on a review of the facility’s discharge monitoring reports, the facility can meet the change without a schedule of compliance.
- **Settleable Solids.** In the absence of effluent regulation, Best Professional Judgment used to set effluent limits consistent with other industrial stormwater facilities. Daily maximum 1.5 ml/L/hr., monthly average 1.0 ml/L/hr.
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been retained from previous state operating permit.

Outfall #005 – Internal Compliance Point

According to 10 CSR 20-7.015(9)(B) “dilution of treated wastewater with cooling water or other less contaminated water to lower the effluent concentration to limits required by an effluent regulation of the Clean Water Law shall not be an acceptable means of treatment.” In 40 CFR 436.22(a)(2), “Except as provided in Section 125.30 through 125.32 and subject to the provisions of paragraphs (b) and (c) of this section, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):...(2) Mine dewatering discharges shall not exceed the following limitations: pH within the range of 6.0 to 9.0. From the process flow diagram provided in Lone Star’s permit application, the establishment of the internal compliance point is to ensure the pH leaving the quarry sump following mine dewatering activities meets the effluent limit guidelines prior to being mixed with stormwater run-off and non-contact cooling water for discharge through Outfall 001. Thus the permit includes the establishment of an internal compliance point to meet the requirements of 40 CFR 436.22(a)(2) and 10 CSR 20-7.015(9)(B).

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	MGD	1	*		*	YES	***
pH	SU	1,2	**		**	YES	***
MONITORING FREQUENCY	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

* Monitoring requirement only.

** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.

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

Basis for Limitations Codes:

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

OUTFALL #005– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **pH.** Effluent limitations are 6.0-9.0 per 40 CFR 436.22(a)(2).
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements match Outfall 001 sampling and reporting requirements, as Outfall 005 is an internal compliance point for the effluent from the quarry dewatering operation.

Outfall #006 – Internal Sampling Location for Hazardous Waste Tank Farm

The facility is required to maintain secondary containment around the various hazardous waste tanks on the property. On rare occasions, the secondary containment needs emptied. In the past, the facility has sampled the water and received approval to discharge through Outfall #002 on a case by case basis. This permit modification incorporates the sampling requirements and the discharge effluent limits. IN the event any parameter exceed the maximum effluent limit below, the permittee must make other disposal arrangements and not discharge through 002. Any samples collected shall be reported 28 days after the sample is collected.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	EFFLUENT LIMIT	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GPD	1	*	YES	***
1,1,1-Trichloroethane	mg/L	2,3	*	YES	***
1,2,4-Trimethylbenzene	mg/L	2,3	2.30	YES	***
2- Butanone (MEK)	mg/L	2,3	252.5	YES	***
2-Propanol	mg/L	2,3	*	YES	***
4-methyl-2-pentanone	mg/L	2,3	143.8	YES	***
Benzene	µg/L	2,3	71	YES	***
Ethylbenzene	mg/L	2,3	0.30	YES	***
Ispropylbenzene	mg/L	2,3	0.80	YES	***
m-Cresol	mg/L	2,3	2.6	YES	***
Methyl methacrylate	mg/L	2,3	37.6	YES	***
Methylene Chloride	mg/L	2,3	1.6	YES	***
Naphthalene	mg/L	2,3	*	YES	***
O-Cresol	mg/L	2,3	3.0	YES	***
Phenol	mg/L	2,3	0.10	YES	***
Stryrene	mg/L	2,3	*	YES	***
Tetrachloroethylene	µg/L	2,3	8.85	YES	***
Toluene	mg/L	2,3	200	YES	***
Trichlorethylene	µg/L	2,3	80	YES	***
Xylene	mg/L	2,3	*	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.

Basis for Limitations Codes:

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

OUTFALL #006– DERIVATION AND DISCUSSION OF LIMITS:

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **1,1,1-Trichloroethane.** Monitoring only. The department will review the submitted 1,1,1-trichloroethane data to determine if limitations will be required or if the parameter can be removed from the permit.

- **1,2,4-trimethylbenzene.** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 7.72 mg/l (<http://www.sigmaaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 7.72 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 7.72 = 2.32 \text{ mg/l} \\ LTA_a &= 2.32(0.321) = 0.74 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 0.74 (3.11) = 2.3 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **2- Butanone.** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 843.0 mg/l (<http://www.sigmaaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 843.0 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 843 = 252.9 \text{ mg/l} \\ LTA_a &= 252.9(0.321) = 81.2 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 81.2 (3.11) = 252.5 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **2-Propanol.** Monitoring only. The department will review the submitted 2-propanol data to determine if limitations will be required or if the parameter can be removed from the permit.
- **4-methyl-2-pentanone.** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 480 mg/L. (<http://www.sigmaaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 480.0 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 480.0 = 144 \text{ mg/l} \\ LTA_a &= 144(0.321) = 46.2 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 46.2 (3.11) = 143.8 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **Benzene.** Human Health Criteria = 71 µg/L. Discharges can not exceed criteria. WLA=HHF criteria.
MDL= HHF= 71 µg/L

- **Ethylbenzene.** Protection of aquatic life = 320 µg/L.
WLA= 320
LTA_a = 320(0.321) = 102.7 µg/L &&& [CV=0.6, 99th Percentile]
MDL = 102.7(3.11) = 319 µg/L = 0.30 mg/L &&& [CV=0.6, 99th Percentile]

- **Isopropylbenzene.** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 2.7 mg/l (<http://www.sigmaaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 2.7 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 2.7 = 0.81 \text{ mg/l} \\ LTA_a &= 0.81(0.321) = 0.26 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 0.26 (3.11) = 0.8 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **Methyl methacrylate.** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 125.5 mg/L. (<http://www.sigmaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 125.5 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 125.5 = 37.65 \text{ mg/l} \\ LTA_a &= 37.65(0.321) = 12.09 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 12.09 (3.11) = 37.6 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **Methylene Chloride.** Human Health Criteria = 1,600 µg/L (1.6 mg/L). Discharges can not exceed criteria. WLA=HHF criteria. MDL= HHF= 1.6 mg/L

- **M-Cresol.** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 8.9 mg/l and for aquatic invertebrates the median effective concentration is 18.8 mg/L. (<http://www.sigmaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 8.9 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 8.9 = 2.7 \text{ mg/l} \\ LTA_a &= 2.7(0.321) = 0.86 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 0.86 (3.11) = 2.6 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **Naphthalene.** Monitoring only. The department will review the submitted naphthalene data to determine if limitations will be required or if the parameter can be removed from the permit.

- **Ortho-Cresol (O-Cresol).** Per 10 CSR 20-7.031(1)(A) and (3)(I)2B, for substances not listed in Tables A and B, 0.3 of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity. The median lethal concentration for fish according to the material safety data sheet is 10.0 mg/l and for aquatic invertebrates the median effective concentration is 15.8 mg/L. (<http://www.sigmaldrich.com/catalog/DisplayMSDSContent.do>)

$$\begin{aligned} LC_{50} &= 10.0 \text{ mg/L} \\ WLA_a &= (0.3 * LC_{50}) = 0.3 * 10 = 3.0 \text{ mg/l} \\ LTA_a &= 3.0(0.321) = 0.963 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 0.963 (3.11) = 3.0 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **Phenol.** Protection of aquatic life = 100 µg/L.

$$\begin{aligned} WLA &= 100 \\ LTA_a &= 100(0.321) = 32.1 \text{ µg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \\ MDL &= 32.1(3.11) = 100 \text{ µg/L} = 0.1 \text{ mg/L} && [CV=0.6, 99^{th} \text{ Percentile}] \end{aligned}$$

- **Styrene.** Monitoring only. The department will review the submitted styrene data to determine if limitations will be required or if the parameter can be removed from the permit.

- **Tetrachloroethylene (tetrachloroethane).** Human Health Criteria = 8.85 µg/L. Discharges can not exceed criteria. WLA=HHF criteria.

$$MDL = HHF = 8.85 \text{ µg/L}$$

- **Toluene.** Human Health Criteria = 200 mg/L. Discharges can not exceed criteria. WLA=HHF criteria.

$$MDL = HHF = 200 \text{ mg/L}$$

- **Trichloroethylene (trichloroethane).** Human Health Criteria = 80 µg/L. Discharges can not exceed criteria. WLA=HHF criteria.

$$MDL = HHF = 80 \text{ µg/L}$$

- **Xylene.** Monitoring only. The department will review the submitted xylene data to determine if limitations will be required or if the parameter can be removed from the permit.
- **Minimum Sampling and Reporting Frequency Requirements.** Sample prior to discharging. If sample exceeds the effluent limits above, discharge shall not occur. Results shall be submitted to the department within 28 days of the samples being taken.

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.

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 November 4, 2011 to December 4, 2011.

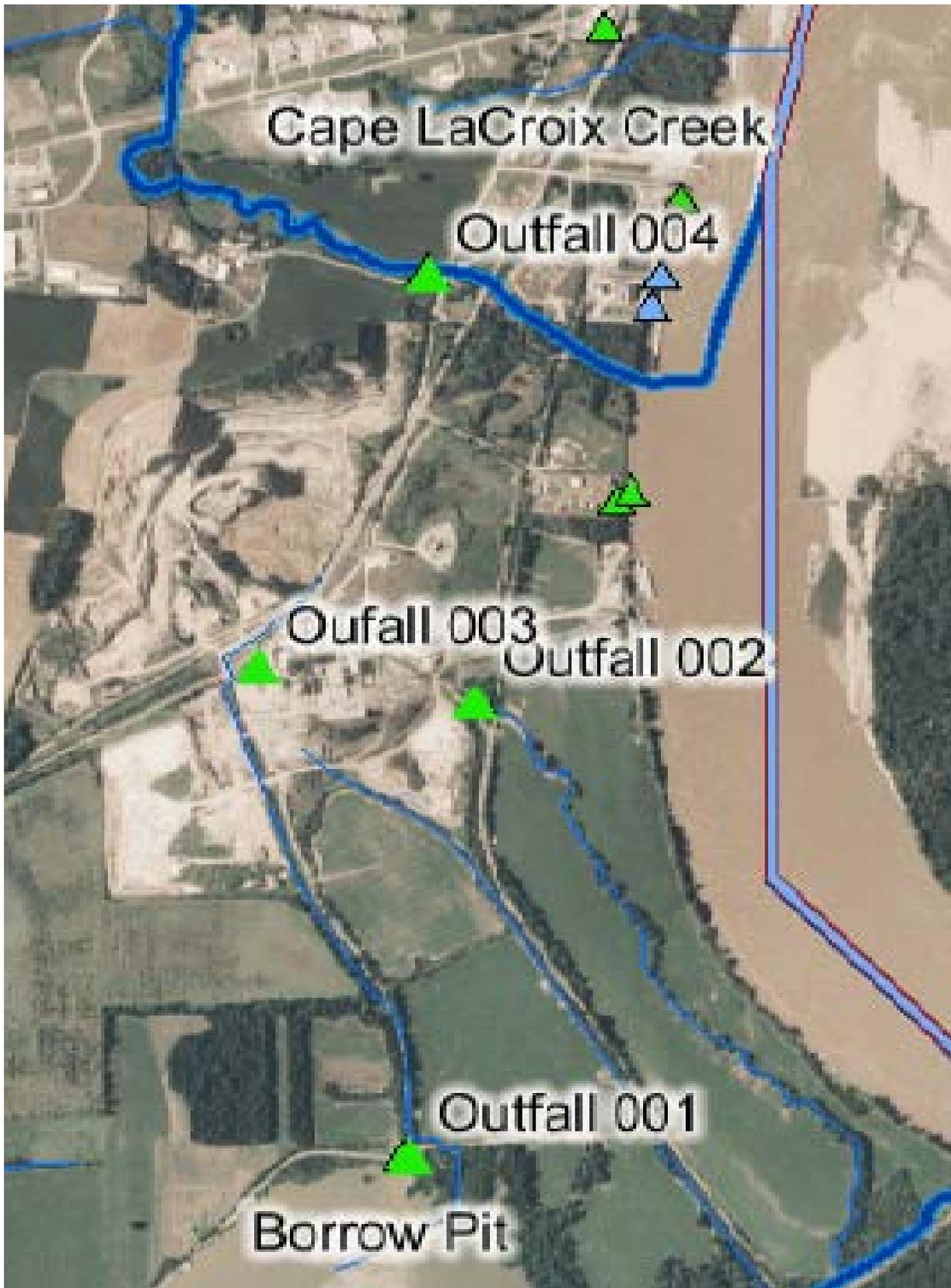
DATE OF FACT SHEET: SEPTEMBER 21, 2009; REVISED JANUARY 29, 2010; REVISED JUNE 27, 2011 FOR PERMIT MODIFICATION

COMPLETED BY:

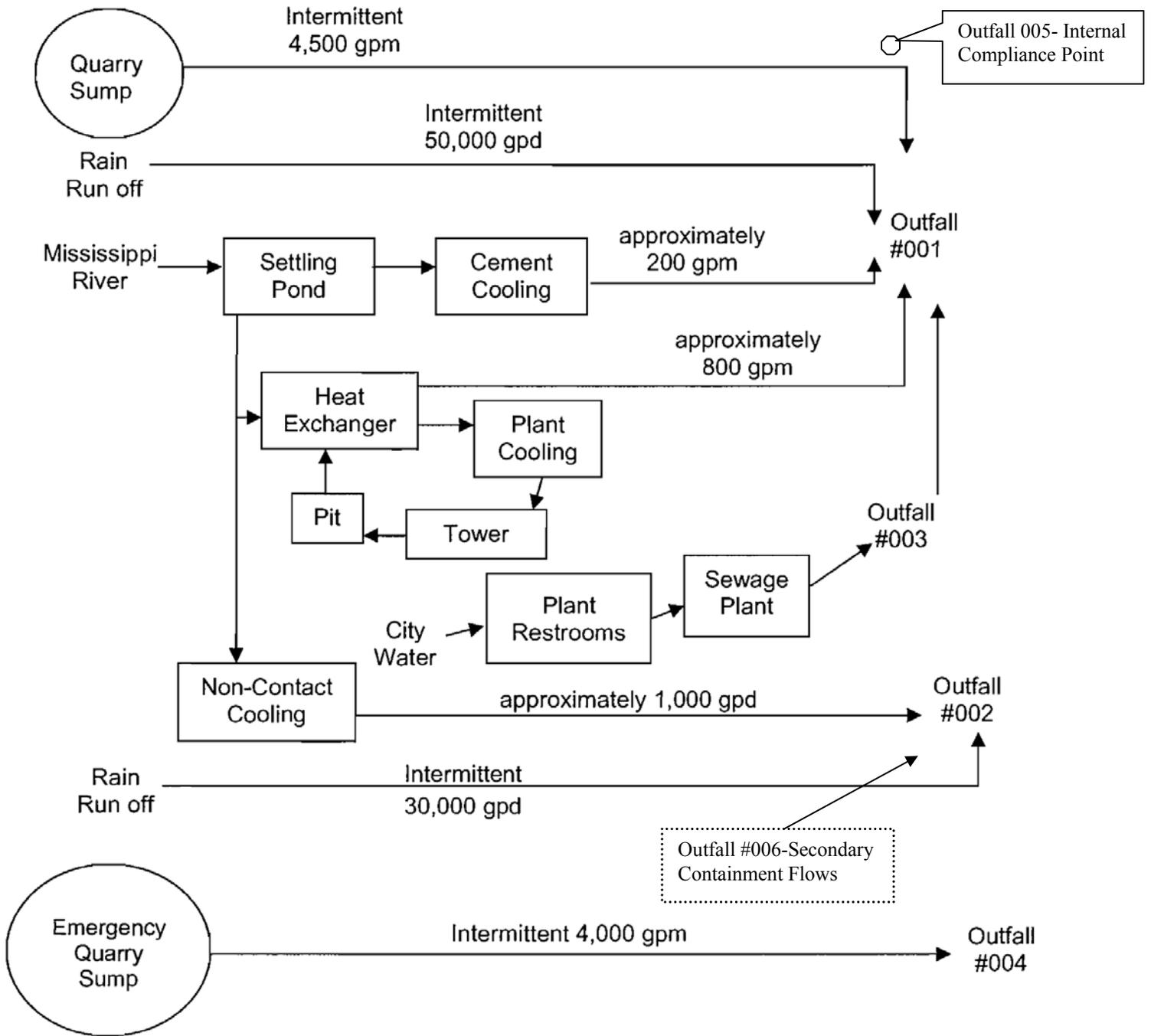
LEASUE MEYERS, ENVIRONMENTAL ENGINEER II
NPDES PERMITS AND ENGINEERING SECTION
WATER PROTECTION PROGRAM
LEASUE.MEYERS@DNR.MO.GOV

Part VII – Appendices

APPENDIX A: FACILITY MAP



APPENDIX B: FACILITY FLOWCHART



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

**Revised
October 1, 1980**

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

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

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

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

Test procedures for the analysis of pollutant shall be in accordance with the Missouri Clean Water Commission Effluent Regulation 10 CSR 20-7015.
5. **Recording of Results**
 - a. For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:
 - (i) the date, exact place, and time of sampling or measurements;
 - (ii) the individual(s) who performed the sampling or measurements;
 - (iii) the date(s) analyses were performed;
 - (iv) the individual(s) who performed the analyses;
 - (v) the analytical techniques or methods used; and
 - (vi) the results of such analyses.
 - b. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or both.
 - c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
6. **Additional Monitoring by Permittee**

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

7. **Records Retention**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

SECTION B - MANAGEMENT REQUIREMENTS

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

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

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

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

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

PART III – SLUDGE & BIOSOLIDS FROM DOMESTIC WASTEWATER TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation and incorporates applicable federal sludge disposal requirements under 40 CFR 503. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFS 503 until such time as Missouri is delegated the new EPA sludge program. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Sludge and Biosolids Use and Disposal Practices.
 - a. Permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
 - b. Permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
 - c. Permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
 - d. A separate operating permit is required for each operating location where sludge or biosolids are generated, stored, treated, or disposed, unless specifically exempted in this permit or in 10 CSR 20, Chapter 6 regulations. For land application, see section H, subsection 3 of these standard conditions.
4. Sludge Received From Other Facilities
 - a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
 - b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge.
 - c. Sludge received from out-of-state generators shall receive prior approval of the permitting authority and shall be listed in the facility description or special conditions section of the permit.
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after du process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RsMo.
8. In addition to the STANDARD CONDITIONS, the department may include sludge limitations in the special conditions portion or other sections of this permit.
9. Alternate Limits in Site Specific Permit.

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

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

SECTION B – DEFINITIONS

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

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

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

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

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

SECTION E – WASTEWATER TREATMENT LAGOONS AND STORMWATER RETENTION BASINS

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

SECTION F – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous waste, shall be disposed in accordance with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored; and ash use or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.
4. Additional limitations, monitoring, and reporting requirements may be addressed in the Special Conditions sections of this permit.

SECTION G – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

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

SECTION H – LAND APPLICATION

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

6. Agricultural and Silvicultural Sites.

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

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

SECTION I – CLOSURE REQUIREMENTS

1. This section applies to all wastewater treatment facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees who plan to cease operation must obtain department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids, and ash. Permittee must maintain this permit until the facility is properly closed per 10 CSR 20-6.010 and 10 CSR 20-6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure shall not exceed the agricultural loading rates as follows:
 - a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
 - b. If a wastewater treatment lagoon has been in operation for 15 years or more, the sludge in the lagoon qualifies for Class B with respect to pathogens (see WQ 424, Table 3), and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B limitations. See WQ 423 and 424.
 - c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. See WQ 426 for calculation procedures. For a grass cover crop, the allowable PAN is 300 pounds/acre.
4. When closing a wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered “septage” under the similar treatment works” definition. See WQ 422. Under the septage category, residuals may be left in place as follows:
 - a. Testing for metals or fecal coliform is not required.
 - b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at the rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
 - c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If more than 100 dry tons/acre will be left in the lagoon, test for nitrogen and determine the PAN in accordance with WQ 426. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berms shall be demolished, and the site shall be graded and vegetated so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoon closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed five acres in accordance with 10 CSR 20-6.200.
7. If sludge exceeds agricultural loading rates under Section H or I, a landfill permit or solid waste disposal permit shall be obtained to authorize on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

SECTION J – MONITORING FREQUENCY

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

SECTION K – RECORD KEEPING AND REPORTING REQUIREMENTS

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

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

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

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