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-0000931
Owner:	The Clorox Company
Address:	P.O. Box 24305, Oakland, CA 94623
Continuing Authority:	Kingsford Manufacturing Company
Address:	21200 Maries Rd. 314, Belle, MO 65013
Facility Name:	Same as above
Facility Address:	Same as above
Legal Description:	See page 2
UTM Coordinates:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	See page 2

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

FACILITY DESCRIPTION

Charcoal Briquette Manufacturing Facility; SIC# 2861 & 4952; NAICS# 325194 & 221320. This permit covers domestic wastewater treatment and discharge; process wastewater treatment, irrigation, and discharge; and stormwater control and discharge. Sludge is disposed of by contract hauler. This facility does not require a certified wastewater operator.

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

June 1, 2020
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

June 30, 2024
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION

OUTFALL #001 – Domestic Wastewater – SIC #4952
Domestic wastewater treated by extended aeration, sock filtration, and UV disinfection. Sludge is disposed as needed by contract hauler.

Legal Description:	NW¼, SW¼, Sec.08, T40N, R07W, Maries County
UTM Coordinates:	X = 610794, Y = 4230923
Receiving Waterbody:	Tributary to Dry Fork (C)
First Classified Waterbody and ID:	100K Extent-Remaining Stream (C) (3960)
USGS Basin & Sub-watershed No.:	Bourbeuse (07140103-0101)
Design Flow:	6,000 GPD
Average Flow:	1,700 GPD

OUTFALL #002 – Process Wastewater & Stormwater – SIC #2861
Process wastewater from charcoal manufacturing. The process wastewater consists of manufacturing facility wash down water used around the briquette dryers and coolers to control dust, firefighting water, boiler blow down water, and retort seal water. Water used in the briquette batching operation is contained and isolated from the other operations. Any residual water from the batching operation is captured and reused in the process and not discharged. Stormwater is also drained to the treatment system. All wastewater and stormwater is treated by a series of settling ponds (labeled primary, secondary and tertiary), followed by irrigation or discharge. Treated wastewater is recycled as much as possible into the manufacturing process. Solids are periodically removed and recycled to the manufacturing process.

Legal Description:	NW¼, SW¼, Sec.08, T40N, R07W, Maries County
UTM Coordinates:	X = 610609, Y = 4231044
Receiving Waterbody:	Tributary to Dry Fork (C)
First Classified Waterbody and ID:	100K Extent-Remaining Stream (C) (3960)
USGS Basin & Sub-watershed No.:	Bourbeuse (07140103-0101)
Design Flow:	290,000 GPD
Average Flow:	90,000 GPD

OUTFALL #003 – Stormwater – SIC #2861
Stormwater runoff not captured in the drainage to Outfall #002

Legal Description:	NW¼, SW¼, Sec.08, T40N, R07W, Maries County
UTM Coordinates:	X = 610803, Y = 4230915
Receiving Waterbody:	Tributary to Dry Fork (C)
First Classified Waterbody and ID:	100K Extent-Remaining Stream (C) (3960)
USGS Basin & Sub-watershed No.:	Bourbeuse (07140103-0101)
Maximum Flow:	690,000 GPD – based on a 10 Yr 24 hr storm event

PERMITTED FEATURE IRR – land applied wastewater, sludge, or solids must meet an agronomic use as identified below; any application not meeting the below conditions would remove the exemption for agricultural return flows. Stormwater discharges will then be permitted accordingly.

Legal Description:	NW¼, SW¼, Sec.08, T40N, R07W, Maries County
UTM Coordinates (Centroid):	X = 610682, Y = 4230973
USGS Basin & Sub-watershed No.:	Bourbeuse (07140103-0101)
Application Rate Basis:	Hydraulic Loading
Vegetation Type:	Grass
Equipment Type:	Sprinklers
Application Rates, Maximum:	0.2 inch/hour; 0.75 inch/day; 3.0 inches/week; 50 inches/year
Irrigation Volume, Maximum:	8,133,000 at design loading (including 1-in-10 year flows)
Irrigation Area:	6 total available acres
Application Period, Maximum:	365 days per year

OUTFALL #001 *Domestic Wastewater*	**TABLE A-1** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **June 1, 2020** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/quarter ◊	24 hr. total
CONVENTIONAL						
Biochemical Oxygen Demand$_5$	mg/L	45		30	once/quarter ◊	grab
E. coli ǂ	#/100 ml	1,030		206	once/quarter ◊	grab
pH †	SU	6.5 to 9.0		6.5 to 9.0	once/quarter ◊	grab
Total Suspended Solids	mg/L	45		30	once/quarter ◊	grab
NUTRIENTS						
Ammonia as N	mg/L	*		*	once/quarter ◊	grab

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

OUTFALL #002 *Process Wastewater and Stormwater*	**TABLE A-2** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **June 1, 2020** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		*	once/month	24 hr. total
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	*		*	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
pH †	SU	6.0 to 9.0		6.0 to 9.0	once/month	grab
Total Suspended Solids	mg/L	110		70	once/month	grab

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

NUTRIENTS						
Ammonia as N	mg/L	*		*	once/quarter ◊	grab
Nitrate plus Nitrite	mg/L	*		*	once/quarter ◊	grab
Nitrogen, Total Kjeldahl (TKN)	mg/L	*		*	once/quarter ◊	grab
Phosphorus, Total (TP)	mg/L	*		*	once/quarter ◊	grab

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

IRR *Land Application*	**TABLE A-3** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **June 1, 2020** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited, and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Application Area	acres	*		-	daily	total
Application Rate	inches/acre	*		-	daily	total
Irrigation Period	hours	*		-	daily	total
Volume Irrigated	gallons	*		-	daily	total

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

OUTFALL #003 *Stormwater Only*	**TABLE A-4** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective on **June 1, 2020** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS	MONITORING REQUIREMENTS ⁂	
		DAILY MAXIMUM	MONTHLY AVERAGE		MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		-	once/quarter ◊	24 Hr Est.
Precipitation	inches	*		-	once/quarter ◊	measured
CONVENTIONAL						
Oil & Grease	mg/L	*		-	once/quarter ◊	grab
pH †	SU	**		6.0 to 9.0	once/quarter ◊	grab
Total Suspended Solids	mg/L	*		-	once/quarter ◊	grab

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

* Monitoring and reporting requirement only

** Monitoring only with associated benchmark

ǂ *E. coli*: final limitations and monitoring requirements are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean.

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

◊ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS				
QUARTER	MONTHS	*E. COLI*	ALL OTHER PARAMETERS	REPORT IS DUE
First	January, February, March	Not required to sample.	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	October 28th
Fourth	October	Sample once during October	Sample at least once during any month of the quarter	January 28th
	November, December	No sample required		

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I and Part III standard conditions dated August 1, 2014 and August 1, 2019, respectively, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Spills, Overflows, and Other Unauthorized Discharges.
   (a) Any spill, overflow, or other discharge(s) not specifically authorized above are unauthorized discharges.
   (b) Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.

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

3. Stormwater Pollution Prevention Plan (SWPPP).
   The facility's SIC code or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) and hence shall implement a Stormwater Pollution Prevention Plan (SWPPP) which must be prepared and implemented upon permit effective date. The SWPPP must be kept on-site and should not be sent to the Department unless specifically requested. The SWPPP must be reviewed and updated annually or if site conditions affecting stormwater change. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was not effective at preventing pollution [644.016(17)] to waters of the state. Corrective action describes the steps the facility took to eliminate the deficiency.

The SWPPP must include:

(a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
(b) A map with all outfalls and structural BMPs marked.
(c) A schedule for at least once per month site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
    i. Operational deficiencies must be corrected within seven (7) calendar days.
    ii. Minor structural deficiencies must be corrected within fourteen (14) calendar days.
    iii. Major structural deficiencies (deficiencies projected to take longer than 14 days to correct) must be reported as an uploaded attachment through the eDMR system with the DMRs. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. If required by the Department, the permittee shall work with the regional office to determine the best course of action. The permittee should consider temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
    iv. All actions taken to correct the deficiencies shall be included with the written report, including photographs, and kept with the SWPPP. Additionally, corrective action of major structural deficiencies shall be reported as an uploaded attachment through the eDMR system with the DMRs.
    v. BMP failure causing discharge through an unregistered outfall is considered an unauthorized discharge and must be reported in accordance with Standard Conditions Part I.
    vi. Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to Department personnel upon request. Electronic versions of the documents and photographs are acceptable.
(d) A provision for designating an individual to be responsible for environmental matters and a provision for providing training to all personnel involved in housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas. Proof of training shall be submitted upon request by the Department.

4. Site-wide minimum Best Management Practices (BMPs). At a minimum, the permittee shall adhere to the following:
    (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, and thereby prevent the contamination of stormwater from these substances.
    (b) Ensure adequate provisions are provided to protect embankments from erosion.
    (c) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
    (d) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records should be retained on-site.
    (e) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
    (f) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.

5. Stormwater Benchmarks. This permit stipulates pollutant benchmarks applicable to your stormwater discharges.
    (a) The benchmarks do not constitute direct numeric effluent limitations; therefore, a benchmark exceedance alone is not a permit violation. Benchmark monitoring and visual inspections shall be used to determine the overall effectiveness of the SWPPP and to assist you in knowing when additional corrective action may be necessary to protect water quality. If a sample exceeds a benchmark concentration you must review your SWPPP and your BMPs to determine what improvements or additional controls are needed to reduce the pollutant in your stormwater discharge(s).
    (b) Any time a benchmark exceedance occurs, a Corrective Action Report (CAR) must be completed. A CAR is a document recording the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and be available to the Department upon request. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility must contact the Department if a benchmark value cannot be achieved. Failure to take corrective action to address a benchmark exceedance and failure to make measureable progress towards achieving the benchmarks is a permit violation.

C. SPECIAL CONDITIONS (CONTINUED)

6. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16, and the CWA section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Clean Water Act Sections 301(b)(2)(C) and (D), §304(b)(2), and §307(a) (2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause.

7. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

8. All outfalls and permitted features must be clearly marked in the field.

9. Report no discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.

10. Changes in Discharges of Toxic Pollutant.
In addition to the reporting requirements under 40 CFR 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
    (a) That an activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
        (1) One hundred micrograms per liter (100 µg/L);
        (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
        (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
        (4) One milligram per liter (1 mg/L) for antimony;
        (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
        (6) The notification level established by the Department in accordance with 40 CFR 122.44(f).
    (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
        (1) Five hundred micrograms per liter (500 µg/l);
        (2) One milligram per liter (1 mg/l) for antimony;
        (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
        (4) The level established by the Director in accordance with 40 CFR 122.44(f).

11. Reporting of Non-Detects.
    (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated.
    (b) The permittee shall not report a sample result as "non-detect" without also reporting the detection limit of the test or the reporting limit of the laboratory. Reporting as "non-detect" without also including the detection/reporting limit will be considered failure to report, which is a violation of this permit.
    (c) The permittee shall report the non-detect result using the less than "<" symbol and the laboratory's detection/reporting limit (e.g. <6).
    (d) See sufficiently sensitive method requirements in Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
    (e) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (C).

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

13. This permit does not cover land disturbance activities.

14. This permit does not authorize the placement of fill materials in flood plains, placement of solid materials into any waterway, the obstruction of stream flow, or changing the channel of a defined drainage course. The facility must contact the U.S. Army Corps of Engineers (Corps) to determine if a CWA §404 Department of Army permit is required.

C. SPECIAL CONDITIONS (CONTINUED)

15. Renewal Application Requirements.
    (a) This facility shall submit an appropriate and complete application to the Department no less than 180 days from the expiration date listed on page 1 of the permit.
    (b) Application materials shall include complete Form A, and Form C. If the form names have changed, then the facility should assure they are submitting the correct forms as required by regulation. Sampling for all parameters on Form D is required by law for all process wastewater at this facility.
    (c) This facility must submit Form B for the domestic wastewater outfall.
    (d) This facility must submit form R for the application of sludge or wastewater.
    (e) The facility must sample the stormwater outfalls and provide analysis for every parameter contained in the permit at any outfall for at the site in accordance with 10 CSR 20-6.200(2)(C)1.E(I) and (II)
    (f) The facility may use the electronic submission system to submit the application to the Program, if available.
    (g) This facility must submit all corrective action reports completed for the last permit term if a benchmark exceedance occurred.
    (h) This facility must submit all soil testing with the application for permit renewal.

D. LAND APPLICATION CONDITIONS

1. Land application of wastewater and/or sludge materials listed in the Facility Description of this permit is authorized and shall be conducted according to the following conditions. These land application conditions do not apply to fertilizer products receiving a current exemption under the Missouri Clean Water Law and regulations in 10 CSR 20-6.015(3)(B)8., and are land applied in accordance with the exemption.

2. Storage Basin Minimum BMPs.
    (a) To maintain structural integrity, basins shall be inspected at least monthly, the berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage, any leaks or issues shall be noted.
    (b) At least one sign shall appear on the fence on each side of each basin. Minimum wording shall be "WASTEWATER – KEEP OUT", in letters at least 2 inches high.
    (c) It is a violation of this permit to place material in the emergency spillway or otherwise cause it to cease to function properly, as this may result in a catastrophic failure of the storage basin.

3. Land Application Equipment Minimum Requirements.
    (a) Spray application equipment shall minimize the formation of aerosols.
    (b) Application equipment shall be visually inspected weekly during land application to check for equipment malfunctions and leaks. The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site.

4. Land Application Field(s) Minimum Requirements.
    (a) No land application shall occur when the soil or ground is frosted, frozen, snow covered, or saturated. Weekly observation of fields during land application is required. Application activities shall cease if these conditions occur.
    (b) There shall be no application during a precipitation event or if a precipitation event likely to create runoff is forecasted to occur within 24 hours of a planned application.
    (c) Public Access Restrictions; this permit does not authorize application of wastewater to public use areas.
    (d) If land application sites listed in this permit are also included as land application sites in another permit, the wastewater and sludge applications from all sources shall be included in the application rates in the facility description. Records all sources must be kept for all permits.

D. LAND APPLICATION CONDITIONS (CONTINUED)

(e) Land application shall occur only during daylight hours unless night time irrigation is necessary and the Water Protection Program has approved a nighttime irrigation plan.
(f) Land application fields shall be checked weekly during land application for runoff.
(g) Sites utilizing spray irrigation shall monitor for the drifting of spray across property lines. Spray drift is not permissible.
(h) Setback distances from sensitive features per 10 CSR 20-8.200(6)(B). There shall be no land application within:
  i. The 10 year floodplain;
  ii. 50 feet inside of the property line;
  iii. 100 feet of any classified or unclassified gaining perennial or intermittent stream, any wetland, or any public or privately owned pond or lake;
  iv. 150 feet of any dwelling, residence, public building, or public use area (excluding roadways);
  v. 300 feet of any potable water supply well not located on the property, adequate protections shall be implemented and maintained for any potable water supply well located within the application area;
  vi. 300 feet from any sinkhole, losing stream, or any other physiographic structure with a conduit to groundwater;

5. Application Rate(s) and Loading.
(a) This permit does not authorize application of materials in concentrations known to cause, or having the potential to cause, phytotoxicity in plants per 10 CSR 20-6.015(4)1. If plant stress is observed, the facility may need to reduce application of wastewaters and/or sludges. If phytotoxicity is observed, the facility shall cease land application activities and evaluate the applied substances to determine the cause of phytotoxicity.
(b) The application rate shall not exceed any design hydraulic loading rate listed in the facility description.
(c) Wastewater application on slopes exceeding 10%:
  (1) Initial application rate on dry soils may briefly exceed one-half (1/2) the design sustained permeability rate;
  (2) The hourly application rate shall not exceed one-half (1/2) the design sustained permeability;
  (3) In no case shall exceed one-half (1/2) inch per hour.
(d) Applications shall not exceed any agronomic rates listed in the facility description to ensure plant use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater applied to a field to meet the fertilization needs of the plants.
(e) Runoff and ponding is prohibited.
(f) This permit does not authorize land disposal or the application of hazardous waste.
(g) If hydraulic application rates exceeded or will exceed 24 inches per acre per year, the permittee shall calculate nitrogen loading rates and include results in the annual report. The calculation is: (PAN) x (0.226) x (inches per acre irrigated) = pounds total N per acre.
(h) Applications shall be conducted according to one the following nutrient based management practices. The chosen method is required to be the most stringent (not over-applying one pollutant).
  (1) Nitrogen:
    (i) Plant Available Nitrogen (PAN) based application. This method can be used when soil test phosphorus (P) levels are 120 pounds or less per acre using Bray P-1 test method, or if the field has been assessed by Missouri Phosphorus Index (P-index) with a low or medium rating. The amount of wastewater and/or sludge to be applied shall be adjusted annually based on the PAN calculation using the current wastewater and/or sludge nutrient analysis and the following:
    (ii) For non-legume crops, the nitrogen fertilizer recommendation shall be adjusted to account for nitrogen credits from a preceding legume crop and residual nitrogen from the previous year's application. Nitrogen removal rates can be found in WQ430.
    (iii) For legume crops, the nitrogen removal capacity of the legume crops should be based on the estimated nitrogen content of the harvested crop as defined in WQ430 and a realistic yield goal. The estimated nitrogen content of the crop must be adjusted using nitrogen credits for residual nitrogen fertilizer from the previous year's application.
    (iv) PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]
    *Volatilization factor is 0.7 for surface application and 1 for subsurface application.
    (v) The amount of wastewater and/or sludge applied shall not exceed the nitrogen fertilizer recommendation or the estimated nitrogen removal capacity of the planned crop during the year of the application;
  (2) Phosphorus:
    (i) This method must be used when soil test phosphorus (P) levels are above 120 pounds per acre using Bray P-1 test method, or if the P-index rating is high. The amount of wastewater and/or sludge to be applied shall be adjusted annually based the phosphorus content of the current wastewater and/or sludge nutrient analysis and may be applied according to one of the following methods;
    (ii) The annual amount of phosphorus applied shall not exceed the planned crop's phosphorus removal estimate from WQ430, or from publications by other land grant universities in adjoining states; or,
    (iii) Multi-year phosphorus applications. Wastewater and/or sludge applications can exceed the annual planned

phosphate removal estimate for the crop when a multi-year phosphorus application is utilized. The multi-year application must comply with the following conditions:

(iv) The amount of phosphorus banked shall not exceed four years of the estimated crop removal rate for the planned crop rotation;
(v) The actual application rate shall not exceed the multi-year application rate; and
(vi) No additional applications shall occur until the applied phosphorus has been removed from the field by crop removal or harvest.
(vii) No land application can occur if the P-index rating for a field is very high.

6. Soil Monitoring.
   (a) Composite soil samples shall be collected every five years from each field listed in this permit where land application has occurred in the last 12 months. No land application shall occur on fields listed in this permit if soil sample results are more than five years old.
   (b) Soil sampling shall be in accordance with University of Missouri (MU) Guides G9215, Soil Sampling Pastures or G9217, Soil Sampling Hayfields and Row Crops or other methods approved by the Department. The recommendation of one composite sample per 20 acres in G9215 and G9217 is not required by this permit, however, this is a useful method to identify soil fertility fluctuations in large fields due to past management practices, soil type, and variability of crop yields. There shall be at least one composite sample per 80 acres.
   (c) Testing shall conform to Recommended Chemical Soil Testing Procedures for North Central Region (North Central Regional Research Publication 221 Revised), or Soil Testing in Missouri (MU Extension Guide EC923), or other methods approved by the Department.

7. Record Keeping. The following record keeping shall occur, be maintained with permit records for at least five years, be made available to the Department upon request, and shall be submitted with the application for renewal. Records may be maintained electronically per RSMo 432.255.
   (a) Daily land application log showing, at a minimum: date(s) of application, field identified, acres used, volume applied, weather condition (sunny, overcast, air temperature, etc), soil moisture condition, days since last precipitation event, and application method;
   (b) Monthly visual storage structure inspections (if applicable);
   (c) Equipment inspections and calibrations;
   (d) Land application field inspections, including runoff, saturation, and ponding;
   (e) Record of maintenance and repairs;
   (f) Description of any unusual operating conditions encountered, narrative summary of any problems or deficiencies identified, corrective action taken, or improvements planned;
   (g) The number of days of land application during the year, the discharge flow, reason the discharge occurred, and effluent analysis performed including analytical result laboratory pages and any clean-up actions taken.
   (h) Annual samples for each wastewater source shall be obtained and submitted to the department with the application for renewal materials. The samples required shall contain all parameters required in Table A-2 of this permit and any other parameters sampled. The submission must include the date of sampling and have the wastewater identified. Submission of laboratory results sheets will likely meet this requirement.
   (i) To assure the soil does not exceed the cumulative loading rate, all records shall be maintained from the initial application date and for at least five years after application activities have ceased.
   (j) Annual summary for each field used for land application showing: number of days application occurred, crop grown and yield, and total amount of wastewater and/or sludge applied (gallons and/or tons per acre).
   (k) For fields where total nitrogen application exceeded 150 pounds per acre, the facility must submit PAN calculations to document the applied nitrogen was utilized.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0000931
FACILITY NAME

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

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

PART I. FACILITY INFORMATION

Facility Type: Industrial: < 1 MGD
SIC Code(s): 2861, 4952
NAICS Code(s): 325194, 221320
Application Date: 06/27/2019
Expiration Date: 12/31/2019
Last Inspection: 03/27/2012 – in compliance

FACILITY DESCRIPTION:
This facility manufactures charcoal briquettes. The plant site consists of an office building, manufacturing area, packaging and storage buildings, a domestic wastewater treatment plant, and a shed for housing a bulldozer. The facility also has primary, secondary, and tertiary settling ponds for the treatment of process water and stormwater collected from the manufacturing area. The plant property is approximately 220 acres. However, the plant operations only occupy approximately 304,400 square feet. Land use of the adjoining property includes farming and private recreational/residential use. The closest body of water is a tributary to Dry Fork Creek.

The charter number for the continuing authority for this facility is F00426969; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility.

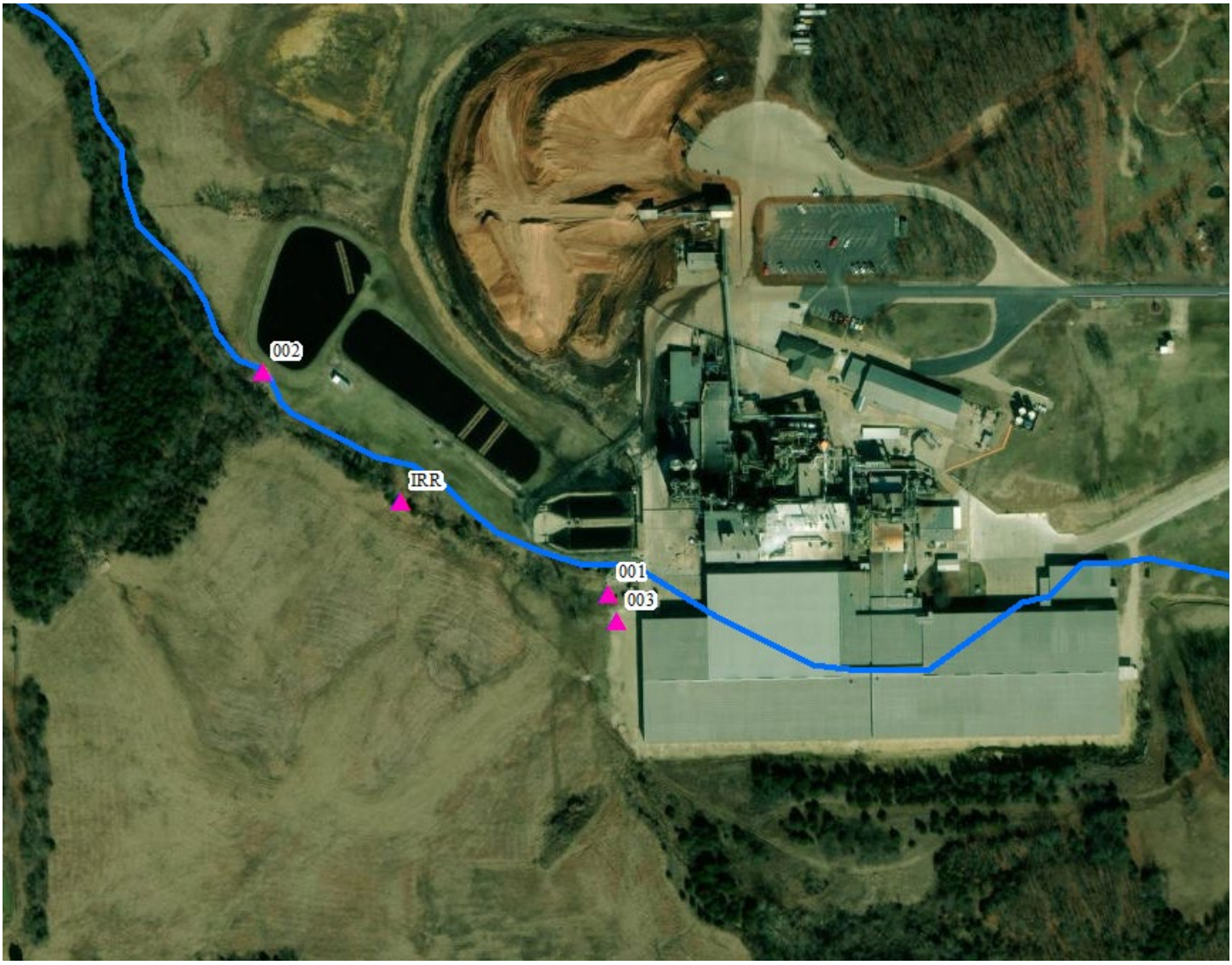
In accordance with 40 CFR 122.21(f)(6), the Department evaluated other permits currently held by this facility. This facility has the following permits: Air Program Permit – (OP2017-088), and Hazardous Waste Generator Permit – Status: Conditionally Exempt – Inactive (ID#000342)(EPA ID#MOD006267793).

PERMITTED FEATURES TABLE:

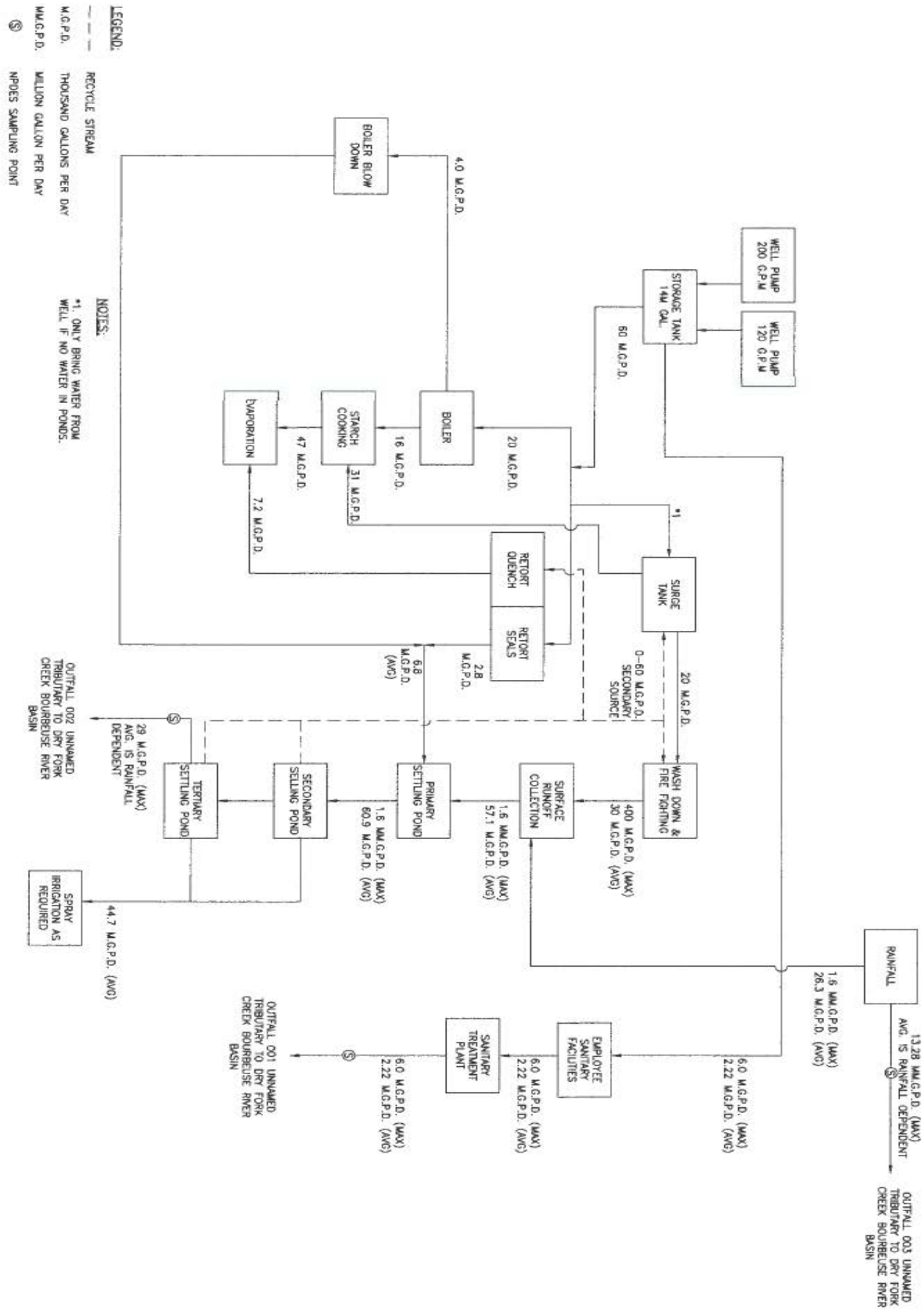
OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.0017 MGD	0.006 MGD	Secondary	Domestic Wastewater
#002	90,000 GPD	290,000 GDP	Primary/Tertiary	Process Wastewater & Stormwater
#003	Dependent on Precipitation	0.69 MGD	BMPs	Stormwater

FACILITY PERFORMANCE HISTORY & COMMENTS:
The electronic discharge monitoring reports were reviewed for the last permit term. There were no limit exceedances reported during the last permit cycle. The last inspection was conducted on March 23, 2012. The facility was found to be in compliance with the Missouri Clean water law, the Clean Water Commission Regulations and their Missouri State Operating Permit.

FACILITY MAP:



WATER BALANCE DIAGRAM:



PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY'S WATER QUALITY:
The receiving waterbody has no relevant water quality data available.

303(D) LIST:
Section 303(d) of the federal Clean Water Act requires each state identify waters not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) list helps state and federal agencies keep track of impaired waters not addressed by normal water pollution control programs. http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm
✓ Not applicable; this facility does not discharge to an impaired segment of a 303(d) listed stream.

TOTAL MAXIMUM DAILY LOAD (TMDL):
A TMDL is a calculation of the maximum amount of a given pollutant a water body can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan or TMDL may be developed. The TMDL shall include the WLA calculation. http://dnr.mo.gov/env/wpp/tmdl/
✓ Not applicable; this facility does not discharge to a waterbody/watershed with a TMDL.

UPSTREAM OR DOWNSTREAM IMPAIRMENTS:
The permit writer has reviewed upstream and downstream stream segments of this facility for impairments.
✓ The permit writer has noted no upstream or downstream impairments near this facility; however, downstream, Dry Fork is classified as a losing stream.

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

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#001	Tributary to Dry Fork Creek	C	3960	ALP, IRR, LWW, SCR, WBC-B, HHP	0.01 mi	07140103-0101 Bourbeuse
	Dry Fork Creek		2041		0.35 mi	
#002	Tributary to Dry Fork Creek		3960		Direct Discharge	
	Dry Fork Creek		2041		0.22 mi	
#003	Tributary to Dry Fork Creek		3960		0.01 mi	
	Dry Fork Creek		2041		0.28 mi	

n/a not applicable

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

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

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

10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-A2 for all habitat designations unless otherwise specified.
10 CSR 20-7.031(1)(C)2.: Recreation in and on the water
WBC = Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A = whole body contact recreation supporting swimming uses and has public access;
WBC-B = whole body contact recreation not supported in WBC-A;
SCR = Secondary Contact Recreation (like fishing, wading, and boating)
10 CSR 20-7.031(1)(C)3. to 7.:
HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish and drinking of water;
IRR = irrigation for use on crops utilized for human or livestock consumption
LWW = Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection);
DWS = Drinking Water Supply
IND = industrial water supply
10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Tables A1-B3 currently does not have corresponding habitat use criteria for these defined uses): WSA = storm- and flood-water storage and attenuation; WHP = habitat for resident and migratory wildlife species; WRC = recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = hydrologic cycle maintenance.
10 CSR 20-7.031(6): **GRW** = Groundwater

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

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

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:
As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.
- ✓ Not applicable; the facility does not discharge to a losing stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], and is an existing facility.

ANTIBACKSLIDING:
Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.
- ✓ Limitations in this operating permit for the reissuance conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.
  - ✓ Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
    - Two years of DMR data were available to support the removal of temperature from outfall #002. Per the facility's DMRs, holding time in the basins have proven to be sufficient. Data shows there is no RP to cause or contribute to exceedances of water quality standards.
  - ✓ The Department determined technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).
    - The previous permit special condition indicated spills from hazardous waste substances must be reported to the department. However, this condition is covered under standard conditions therefore was removed from special conditions.

ANTIDEGRADATION REVIEW:
Process water discharges with new, altered, or expanding flows, the Department is to document, by means of antidegradation review, if the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm
- ✓ Not applicable; the facility has not submitted information proposing expanded or altered process water discharge; no further degradation proposed therefore no further review necessary.

This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which must include an alternative analysis (AA) of the BMPs. The SWPPP must be developed, implemented, updated, and maintained at the facility. Failure

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

✓ Not applicable; the facility must review and maintain stormwater BMPs as appropriate.

BEST MANAGEMENT PRACTICES:

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

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

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

COMPLIANCE AND ENFORCEMENT:

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

✓ Not applicable; the permittee/facility is not currently under Water Protection Program enforcement action.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:

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

✓ Applicable; The permittee treats domestic waste onsite using a domestic waste treatment system which is regulated by this permit. See outfall #001 in permit and parameter descriptions below.

Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.

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

✓ Applicable, sludge is removed by contract hauler. The permitted management strategy must be followed, see FACILITY DESCRIPTION in the permit. If the described management strategy cannot be followed, the permittee must obtain a permit modification. See Standard Conditions Part III.

✓ Standard conditions Part III is incorporated into this permit.

EFFLUENT LIMITATIONS:

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

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

- ✓ The facility has an associated ELG (40 CFR 454 Subpart A). However, the ELG is specific to a kiln-based manufacturing process which does not produce any wastewater thus categorizing it as "no discharge facility". The department and the permittee discussed the ELG at length during the previous permit renewal. It was concluded that the ELG was not applicable due to the retort process used at this facility not being the same process which was surveyed to develop the ELG, 40 CFR 454, Subpart A does not take into consideration the fact that there is wastewater discharge from the retort seals, boiler blowdown and dryer washdown. For this reason, the ELG will not be implemented in this permit.

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

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

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

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

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

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, RSMo 644.076.1, as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission. See Part IV for specific determinations.

GROUNDWATER MONITORING:
Groundwater is a water of the state according to RSMo 644.016(27), is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6), and must be protected accordingly.

- ✓ This facility is not required to monitor groundwater for the water protection program.

LAND APPLICATION:
Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.

- ✓ Applicable, the facility shall comply with all applicable land application requirements listed in this permit. These requirements incorporated into this permit pursuant to 10 CSR 20-6.015(4) ensure appropriate minimum operational controls of the no-discharge land application systems. When operated correctly these permit conditions will prevent unauthorized and illicit discharges to waters of the state; and will protect soils, vegetation, surface water, groundwater, and public health. These requirements also assure application activities fall within a productive use demonstration (agricultural use), prevent plant phytotoxicity, and prevent and protect soils loading of specified pollutants. The minimum requirements established in the permit are to meet, not only DNRs requirements, but to also assure the exemptions for agricultural stormwater runoff in 10 CSR 20-

6.200(1)(B)5 or 10 CSR 20-6.300(2)(D)2 continue to be met. When the facility follows all permit requirements, discharge monitoring requirements found at 10 CSR 20-6.200(2)(B)3.B. for will be excused.

- According to application materials the facility applies water using nine large rain-bird type sprinkler heads that distribute wastewater over the field.
- Following is a list of helpful publications; while generally geared to biosolids and domestic sludge, these documents can show operators and permittees specific best management practices which may be important to their own operations.
  - State and EPA Regulations for Domestic Wastewater Sludge and Biosolids https://extension2.missouri.edu/eq421
  - Activity and Movement of Plant Nutrients and Other Trace Substances https://extension2.missouri.edu/wq428

✓ The facility must follow the applicable application loading rates indicated in the permit's facility description and/or special conditions. Following are an explanation of the conditions in this permit.

- **Hydraulic Loading Rates** – wastewater needs to be land applied at rates to allow for proper soil absorption and plant uptake. In accordance with 10 CSR 20-8.200(6)(B), the hydraulic loading rate shall not exceed the soil permeability rate, resulting in a discharge of wastewater from the land application field.

✓ Soils testing. The permit's special conditions stipulate soil testing for the application fields. Soil testing is performed to assure soil accumulation rates of the specified parameters are below established soil loading rates.

✓ Sludge testing. 40 CFR 503.16 indicates sludge testing frequency should be based on the amount of sludge applied annually. The Program has determined these frequencies to be a suitable guideline to other sludges or high-strength wastewater as well. Sludge and/or wastewater sampling frequency for this permit was based on the following:

Amount of sewage sludge (metric tons)	US Tons	Liquid Gallons	Frequency
Greater than zero but < 290	+0 to 319.6	+0 to 76,609.9	once per year
≥ 290 but < 1,500	319.7 to 1653.4	76,610.0 to 396,258.1	once per quarter
≥ 1,500 but < 15,000	1653.5 to 16534.6	396,258.2 to 3,962,580.7	six times per year
≥ 15,000	≥ 16534.7	≥ 3,962,580.7	once per month

✓ Definitions used in the land application section of the permit can be found at RSMo 644.016, 10 CSR 20-2, and 40 CFR 503.11.

✓ This permit does not authorize land disposal or the application of hazardous waste.

LAND DISTURBANCE:

Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

✓ Not applicable; this permit does not provide coverage for land disturbance activities. The facility may obtain a separate land disturbance permit (MORA) online at https://dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm; MORA permits do not cover disturbance of contaminated soils, however, site specific permits such as this one can be modified to include appropriate controls for land disturbance of contaminated soils by adding site-specific BMP requirements and additional outfalls.

MAJOR WATER USER:

Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statues Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/pubs/pub2236.htm

✓ Applicable; this facility is a major water user and is registered with the state as a non-irrigator under Water User ID #51806440.

OIL/WATER SEPARATORS:

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

✓ Not applicable; the permittee has not disclosed the use of any oil water separators they wish to include under the NPDES permit at this facility and therefore oil water separator tanks are not authorized by this permit.

PRETREATMENT:

This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publically owned treatment works - POTW) is to assure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

✓ Not applicable, this facility does not discharge wastewater to a POTW.

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

- ✓ Applicable; an RPA was conducted on appropriate parameters and was conducted as per (TSD Section 3.3.2). A more detailed version including calculations of this RPA is available upon request. See Wasteload Allocations (WLA) for Limits in this section.

Outfall #001

Parameter	CMC	RWC Acute	CCC	RWC Chronic	n	Max/Min	CV	MF	Reasonable Potential
Ammonia as Nitrogen (Summer)	8.1	0.75	1.5	0.75	4.00	0.16/0.03	0.60	4.70	NO
Ammonia as Nitrogen (Winter)	8.1	0.00	3.1	0.00	0.00	0/0	0.60	0.00	NO

Units are (µg/L) unless otherwise noted.

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

- ✓ Applicable; the permit writer conducted an RPD on applicable parameters within the permit. See Part IV: Effluent Limits Determinations below.
- ✓ Permit writers use the Department's permit writer's manual (http://dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm), the EPA's permit writer's manual (https://www.epa.gov/npdes/npdes-permit-writers-manual), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding: technology based effluent limitations, effluent limitation guidelines, water quality standards, stream flows and uses, and all applicable site specific information and data gathered by the permittee through discharge monitoring reports and renewal (or new) application sampling. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs. Part IV provides specific decisions related to this permit.

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

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

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

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations,

and/or the terms and conditions of an operating permit. SOCs are allowed under 40 CFR 122.47 and 10 CSR 20-7.031(11) providing certain conditions are met.
A SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed. 40 CFR 125.3.
- For a newly constructed facility in most cases. Newly constructed facilities must meet applicable effluent limitations when discharge begins, because the facility has installed the appropriate control technology as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be granted for conducting these activities.

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

✓ Not applicable; this permit does not contain a SOC. Limits have not become more restrictive. No SOC is allowed because the permittee is already capable of meeting the new effluent limits.

SPILLS, OVERFLOWS, AND OTHER UNAUTHORIZED DISCHARGE REPORTING:
Per 260.505 RSMo, any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. http://dnr.mo.gov/env/esp/spillbill.htm

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

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

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

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the permittee to ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate requirements dealing with domestic wastewater, sludge, and land application.

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

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

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

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

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

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

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

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

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

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

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

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

Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

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

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

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

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

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, section A, number 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method quantifies the pollutant below the level of the applicable water quality criterion or; 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A permittee is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive. 40 CFR 136 lists the approved methods accepted by the Department. Tables A1-B3 at 10 CSR 20-7.031 shows water quality standards.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells

shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: http://dnr.mo.gov/forms/780-1774-f.pdf Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

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

VARIANCE:

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

✓ Not applicable; this permit is not drafted under premise of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

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

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

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$

(EPA/505/2-90-001, Section 4.5.5)

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

✓ Acute wasteload allocations designated as daily maximum limits (MDL) were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

✓ Chronic wasteload allocations designated as monthly average limits (AML) were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ).

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

WASTELOAD ALLOCATION (WLA) MODELING:

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

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

WATER QUALITY STANDARD REVISION:

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

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

PART IV. EFFLUENT LIMITS DETERMINATIONS

OUTFALL #001 – DOMESTIC WASTEWATER OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR. TOT
CONVENTIONAL							
BOD_5	mg/L	45	30	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
E. COLI	#/100 ml	1,030	206	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
PH †	SU	6.5 TO 9.0	6.5 to 9.0	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	45	30	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

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

CONVENTIONAL:

Biochemical Oxygen Demand - 5 Day (BOD_5)
45 mg/L as a daily maximum and 30 mg/L as a monthly average. In accordance with 10 CSR 20.7.015(2)(A)1, the technology based limits apply.

Escherichia coli (E. coli)
A daily maximum of 1,030 bacteria per 100 mL and a monthly geometric mean of 206 bacteria per 100 mL during the recreational season (April 1 through October 31) only, to protect Whole Body Contact (B) designated use of the receiving streams, as per 10 CSR 20-7.031(5)(C). An effluent limit for both the monthly average and daily maximum is required by 40 CFR 122.45(d). The geometric mean is calculated by multiplying all of the data points and then taking the n^{th} root of this product, where n = # of samples collected.

pH
6.5 to 9.0 SU – instantaneous grab sample. Water quality limits [10 CSR 20-7.031(5)(E)] are applicable to this outfall. pH is a fundamental water quality indicator. Additionally, ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams.

Total Suspended Solids (TSS)
45 mg/L as a daily maximum and 30 mg/L as a monthly average. In accordance with 10 CSR 20-7031(B)(8) and 40 CFR 122.45(d)(1), the technology-based effluent limitation listed still apply. Per the federal regulations, the weekly average limit has been converted to a daily maximum limit.

NUTRIENTS:

Ammonia, Total as Nitrogen
Monitoring only continued from previous permit. The RPA based on past performance data shows the discharge does not have reasonable potential to cause or contribute to excursions of the water quality standards. For this reason, monitoring only will continue and reasonable potential will be determined upon permit renewal.

OUTFALL #002 – PROCESS WASTEWATER OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/MONTH	ONCE/MONTH	24 HR. TOT
TEMPERATURE	REMOVED						
CONVENTIONAL							
CHEMICAL OXYGEN DEMAND	mg/L	*	*	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
OIL & GREASE	#/100 ml	15	10	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
PH †	SU	6.0 TO 9.0	6.0 to 9.0	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	110	70	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
NITRATE PLUS NITRITE AS N	mg/L	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
NITROGEN, TOTAL KJELDAHL (TKN)	mg/L	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
PHOSPHORUS, TOTAL P (TP)	mg/L	*	*	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
IRRIGATION							
APPLICATION AREA	acres	*	-	SAME	ONCE/DAY/EVENT	ONCE/QUARTER	TOTAL
APPLICATION RATE	inches/acre	*	-	SAME	ONCE/DAY/EVENT	ONCE/QUARTER	TOTAL
IRRIGATION PERIOD	hours	*	-	SAME	ONCE/DAY/EVENT	ONCE/QUARTER	TOTAL
VOLUME IRRIGATED	gallons	*	-	SAME	ONCE/DAY/EVENT	ONCE/QUARTER	TOTAL

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

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

Temperature
Two years of DMR data were available to support the removal of temperature from outfall #002. Per the facility's DMRs, holding time in the retention basins have proven to sufficiently cool the water discharging to waters of the state. Data shows there is no RP to cause or contribute to exceedances of water quality standards.

CONVENTIONAL:

Chemical Oxygen Demand (COD)
Monitoring only. There is no numeric water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the permittee to identify increases in COD may indicate materials/chemicals coming into contact with stormwater causing an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs.

Oil & Grease
15 mg/L daily maximum; 10 mg/L monthly average; continued from previous permit. Oil and grease is considered a conventional pollutant. Oil and grease is a comprehensive test which measures for gasoline, diesel, crude oil, creosote, kerosene, heating oils, heavy fuel oils, lubricating oils, waxes, and some asphalt and pitch. The test can also detect some volatile organics such as benzene, toluene, ethylbenzene, or toluene, but these constituents are often lost during testing due to their boiling points. The facility reported 5 mg/L. The permit writer completed an RPD on this parameter and found no RP. DMR data shows that the facility is not causing or contributing to exceedances of the water quality standard. Oils and greases of different densities will possibly form sheen or unsightly bottom deposits at levels which vary from 10 mg/L. To protect the general criteria, it is the responsibility of the permittee to visually observe the discharge and receiving waters for sheen or bottom deposits.
AQL Chronic: 10 mg/L per 10 CSR 20-7.031 Table A1
Set chronic standard equal to chronic WLA per TSD §5.4.2 (EPA/505/2-90-001); multiply by 1.5 to obtain acute limit.
10 mg/L * 1.5 = 15 mg/L

pH
6.0 to 9.0. This is the technology-based limit of 6.0-9.0 found in 10 CSR 20-7.015(1)(B)(8). The data show that the discharge is consistently within the water quality standards range of 6.5-9.0 found at 10 CSR 20-7.031(5)(E). Since there is no reasonable potential to cause or contribute to excursions of water quality standards at this time, the technology-based limit will be implemented.

Total Suspended Solids (TSS)
Daily maximum limit of 110 mg/L and monthly average limit of 70 mg/L. There are no water quality standards for TSS; however sediment discharges can negatively impact aquatic life habitat. The previous permit implemented the technology-based limits found in 10 CSR 20-7.015(2)(A)3.D.(II)(a). Since these are technology-based limits the discharge is capable of meeting, the permit writer used best professional judgment to maintain these limits.

NUTRIENTS:

Ammonia, Total as Nitrogen
Nitrogen is expected to be present in the discharge therefore quarterly monitoring of ammonia is required per 10 CSR-20-7.015(9)(D)8. and 20-7.015(9)(D)8.A. as this facility's design flow falls within 0.1 to 0.999 MGD

Nitrogen, Total Kjeldahl (TKN)
Nitrogen is expected to be present in this outfall's discharge therefore monitoring is required per 10 CSR 20-7.015(9)(D)8. Quarterly monitoring of total Kjeldahl nitrogen is required per 10 CSR 20-7.015(9)(D)8.A as this facilities design flow falls under 1 MGD but above 0.1 MGD.

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

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

OUTFALL #003 – STORMWATER OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR. ESTIMATE
PRECIPITATION	inches	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR. TOT
CONVENTIONAL							
OIL & GREASE	mg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
pH †	SU	**	6.0 to 9.0	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TSS	mg/L	*	-	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB

* monitoring and reporting requirement only
** monitoring only with associated benchmark
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

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

Precipitation
Monitoring only requirement; measuring the amount of precipitation [(10 CSR 20-6.200(2)(C)1.E(VI)] during an event is necessary to ensure adequate stormwater management exists at the site. Knowing the amount of potential stormwater runoff can provide the permittee a better understanding of any specific control measures be employed to ensure protection of water quality. The facility will provide the 24 hour accumulation value of precipitation from the day of sampling the other parameters.

CONVENTIONAL:

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

pH
Monitoring with a benchmark of 6.0 to 9.0. This is the technology-based limit of 6.0-9.0 found in 10 CSR 20-7.015(1)(B)(8). The data show that the discharge is consistently within the water quality standards range of 6.5-9.0 found at 10 CSR 20-7.031(5)(E). Since there is no reasonable potential to cause or contribute to excursions of water quality standards at this time, the technology-based limit will be used a benchmark.

Total Suspended Solids (TSS)
Monitoring only. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the permittee to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities.

PART V. ADMINISTRATIVE REQUIREMENTS

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

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than two years old, such data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.
✓ This permit is not being synchronized at this time because the permittee requests a full 5-year term.

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

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

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.
✓ The Public Notice period for this operating permit was from March 6, 2020 to April 6, 2020. No responses were received.

DATE OF FACT SHEET: JANUARY 31, 2020
COMPLETED BY:
KYLE O'ROURKE, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 526-1289
Kyle.O'Rourke@dnr.mo.gov

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

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

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

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

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

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

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

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

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

Section B – Reporting Requirements

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

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

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

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

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

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

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

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

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

Section C – Bypass/Upset Requirements

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

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

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

Section D – Administrative Requirements

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
August 1, 2019

PART III – BIOSOLIDS AND SLUDGE FROM DOMESTIC TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. PART III Standard Conditions pertain to biosolids and sludge requirements under the Missouri Clean Water Law and regulations for domestic and municipal wastewater and also incorporates federal sludge disposal requirements under 40 CFR Part 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR Part 503 for domestic biosolids and sludge.
2. PART III Standard Conditions apply only to biosolids and sludge generated at domestic wastewater treatment facilities, including public owned treatment works (POTW) and privately owned facilities.
3. Biosolids and Sludge Use and Disposal Practices:
    a. The permittee is authorized to operate the biosolids and sludge generating, treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge/biosolids volume listed in the facility description and shall not use biosolids or sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. For facilities operating under general operating permits that incorporate Standard Conditions PART III, the facility is authorized to operate the biosolids and sludge generating, treatment, storage, use and disposal facilities identified in the original operating permit application, subsequent renewal applications or subsequent written approval by the department.
4. Biosolids or Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater biosolids or sludge from other facilities as long as the permittee's design sludge capacity is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the biosolids or sludge generator or hauler that certifies the type and source of the sludge
5. Nothing in this permit precludes the initiation of legal action under local laws, except to the extent local laws are preempted by state law.
6. This permit does not preclude the enforcement of other applicable environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable biosolids or 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 Standard Conditions PART III, the Department may include biosolids and sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Exceptions to Standard Conditions PART III may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department may modify a site-specific permit following permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR § 124.10, and 40 CFR § 501.15(a)(2)(ix)(E).
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR Part 503.

SECTION B – DEFINITIONS

1. Best Management Practices are practices to prevent or reduce the pollution of waters of the state and include agronomic loading rates (nitrogen based), soil conservation practices, spill prevention and maintenance procedures and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food, feed or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. 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 Part 503.
5. 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 (PSRP) in accordance with 40 CFR Part 503.
6. 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 (POTW) or a privately owned facility.
7. Feed crops are crops produced primarily for consumption by animals.
8. Fiber crops are crops such as flax and cotton.
9. Food crops are crops consumed by humans which include, but is not limted to, fruits, vegetables and tobacco.
10. Industrial wastewater means any wastewater, also known as process wastewater, not defined as domestic wastewater. Per 40 CFR Part 122.2, process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Land application of industrial wastewater, residuals or sludge is not authorized by Standard Conditions PART III.
11. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological contact systems, and other similar facilities. It does not include wastewater treatment lagoons or constructed wetlands for wastewater treatment.
12. Plant Available Nitrogen (PAN) is nitrogen that will be available to plants during the growing seasons after biosolids application.
13. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
14. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs), sewage sludge incinerator ash, or grit/screenings generated during preliminary treatment of domestic sewage.
15. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen or concrete lined 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.
16. Septage is the sludge pumped from residential septic tanks, cesspools, portable toilets, Type III marine sanitation devices, or similar treatment works such as sludge holding structures from residential wastewater treatment facilities with design populations of less than 150 people. Septage does not include grease removed from grease traps at a restaurant or material removed from septic tanks and other similar treatment works that have received industrial wastewater. The standard for biosolids from septage is different from other sludges. See Section H for more information.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Biosolids or sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and the requirements of Standard Conditions PART III or in accordance with Section A.3.c., above.
2. The permittee shall operate storage and treatment facilities, as defined by Section 644.016(23), RSMo, so that there is no biosolids or sludge discharged to waters of the state. Agricultural storm water discharges are exempt under the provisions of Section 644.059, RSMo.
3. Mechanical treatment plants shall have separate biosolids or sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove biosolids or sludge from these storage compartments on the required design schedule is a violation of this permit.

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

1. Permittees that use contract haulers, under the authority of their operating permit, to dispose of biosolids or sludge, are responsible for compliance with all the terms of this permit. Contract haulers that assume the responsibility of the final disposal of biosolids or sludge, including biosolids land application, must obtain a Missouri State Operating Permit unless the hauler transports the biosolids or sludge to another permitted treatment facility.
2. Testing of biosolids or sludge, other than total solids content, is not required if biosolids or sludge are hauled to a permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Please be aware that sludge incineration facilities may be subject to the requirements of 40 CFR Part 503 Subpart E, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
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, with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, mass of sludge incinerated and mass of ash generated. Permittee shall also provide the name of the ash disposal facility and permit number if applicable.

SECTION F – SURFACE DISPOSAL SITES AND BIOSOLIDS AND SLUDGE LAGOONS

1. Please be aware that surface disposal sites of biosolids or sludge from wastewater treatment facilities may be subject to other laws including the requirements in 40 CFR Part 503 Subpart C, Missouri Air Conservation Commission regulations under 10 CSR 10, and solid waste management regulations under 10 CSR 80, as applicable.
2. Biosolids or sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain biosolids or sludge storage lagoons as storage facilities, accumulated biosolids or sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of biosolids or sludge removed will be dependent on biosolids or sludge generation and accumulation in the facility. Enough biosolids or sludge must be removed to maintain adequate storage capacity in the facility.
    a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of biosolids or sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section I.

SECTION G – LAND APPLICATION OF BIOSOLIDS

1. The permittee shall not land apply biosolids unless land application is authorized in the facility description, the special conditions of the issued NPDES permit, or in accordance with Section A.3.c., above.
2. This permit only authorizes "Class A" or "Class B" biosolids derived from domestic wastewater to be land applied onto grass land, crop land, timber, or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
3. Class A Biosolids Requirements: Biosolids shall meet Class A requirements for application to public contact sites, residential lawns, home gardens or sold and/or given away in a bag or other container.
4. Class B biosolids that are land applied to agricultural and public contact sites shall comply with the following restrictions:
    a. Food crops that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.
    b. Food crops below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for four months or longer prior to incorporation into the soil.
    c. Food crops below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
    d. Animal grazing shall not be allowed for 30 days after application of biosolids.
    e. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.
    f. Turf shall not be harvested for one year after application of biosolids if used for lawns or high public contact sites in close proximity to populated areas such as city parks or golf courses.
    g. After Class B biosolids have been land applied to public contact sites with high potential for public exposure, as defined in 40 CFR § 503.31, such as city parks or golf courses, access must be restricted for 12 months.
    h. After Class B biosolids have been land applied public contact sites with low potential for public exposure as defined in 40 CFR § 503.31, such as a rural land application or reclamation sites, access must be restricted for 30 days.

5. Pollutant limits
    a. Biosolids shall be monitored to determine the quality for regulated pollutants listed in Table 1, below. Limits for any pollutants not listed below may be established in the permit.
    b. The number of samples taken is directly related to the amount of biosolids or sludge produced by the facility (See Section J, below). Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to achieve pollutant concentration below those identified in Table 1, below.
    c. Table 1 gives the ceiling concentration for biosolids. Biosolids which exceed the concentrations in Table 1 may not be land applied.

TABLE 1

Biosolids ceiling concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

d. Table 2 below gives the low metal concentration for biosolids. Because of its higher quality, biosolids with pollutant concentrations below those listed in Table 2 can safely be applied to agricultural land, forest, public contact sites, lawns, home gardens or be given away without further analysis. Biosolids containing metals in concentrations above the low metals concentrations but below the ceiling concentration limits may be land applied but shall not exceed the annual loading rates in Table 3 and the cumulative loading rates in Table 4. The permittee is required to track polluntant loading onto application sites for parameters that have exceeded the low metal concentration limits.

TABLE 2

Biosolids Low Metal Concentration	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2,800

e. Annual pollutant loading rate.

Table 3

Biosolids Annual Loading Rate	
Pollutant	Kg/ha (lbs./ac) per year
Arsenic	2.0 (1.79)
Cadmium	1.9 (1.70)
Copper	75 (66.94)
Lead	15 (13.39)
Mercury	0.85 (0.76)
Nickel	21 (18.74)
Selenium	5.0 (4.46)
Zinc	140 (124.96)

f. Cumulative pollutant loading rates.

Table 4

Biosolids Cumulative Pollutant Loading Rate	
Pollutant	Kg/ha (lbs./ac)
Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)
Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

6. Best Management Practices. The permittee shall use the following best management practices during land application activities to prevent the discharge of biosolids to waters of the state.
   a. Biosolids shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under § 4 of the Endangered Species Act or its designated critical habitat.
   b. Apply biosolids only at the agronomic rate of nitrogen needed (see 5.c. of this section).
   c. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop

nitrogen removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kgTN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.

i. PAN can be determined as follows:

(Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

[1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis.

ii. Crop nutrient production/removal to be based on crop specific nitrogen needs and realistic yield goals. **NOTE:** There are a number of reference documents on the Missouri Department of Natural Resources website that are informative to implement best management practices in the proper management of biosolids, including crop specific nitrogen needs, realistic yields on a county by county basis and other supporting references.

iii. Biosolids that are applied at agronomic rates shall not cause the annual pollutant loading rates identified in Table 3 to be exceeded.

d. Buffer zones are as follows:

i. 300 feet of a water supply well, sinkhole, water supply reservoir or water supply intake in a stream;

ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstandingstate resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;

iii. 150 feet of dwellings or public use areas;

iv. 100 feet (35 feet if biosolids application is down-gradient or the buffer zone is entirely vegetated) of lake, pond, wetlands or gaining streams (perennial or intermittent);

v. 50 feet of a property line. Buffer distances from property lines may be waived with written permission from neighboring property owner.

vi. For the application of dry, cake or liquid biosolids that are subsurface injected, buffer zones identified in 5.d.i. through 5.d.iii above, may be reduced to 100 feet. The buffer zone may be reduced to 35 feet if the buffer zone is permanently vegetated. Subsurface injection does not include methods or technology reflective of combination surface/shallow soil incorporation.

e. Slope limitation for application sites are as follows:

i. For slopes less than or equal to 6 percent, no rate limitation;

ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels;

iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.

iv. Dry, cake or liquid biosolids that are subsurface injected, may be applied on slopes not to exceed 20 percent. Subsurface injection does not include the use of methods or technology reflective of combination surface/shallow soil incorporation.

f. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.

g. Biosolids may be land applied to sites with soil that are snow covered, frozen, or saturated with liquid when site restrictions or other controls are provided to prevent pollutants from being discharged to waters of the state during snowmelt or stormwater runoff. During inclement weather or unfavorable soil conditions use the following management practices:

i. A maximum field slope of 6% and a minimum 300 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be utilized for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not include the use of mthods or technology refletive of combination surface/shallow soil incorporation;

ii. A maximum field slope of 2% and 100 feet grass buffer between the application site and waters of the state. A 35 feet grass buffer may be used for the application of dry, cake or liquid biosolids that are subsurface injected. Subsurface injection does not included the use of methods or technology refletive of combination surface/shallow soil incorporation;

iii. Other best management practices approved by the Department.

SECTION H – SEPTAGE

1. Haulers that land apply septage must obtain a state permit. An operating permit is not required for septage haulers who transport septage to another permitted treatment facility for disposal.
2. Do not apply more than 30,000 gallons of septage per acre per year or the volume otherwise stipulated in the operating permit.
3. Septic tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to mechanical treatment facilities.
4. Septage must comply with Class B biosolids regarding pathogen and vector attraction reduction requirements before it may be applied to crops, pastures or timberland. To meet required pathogen and vector reduction requirements, mix 50 pounds of hydrated lime for every 1,000 gallons of septage and maintain a septage pH of at least 12 pH standard units for 30 minutes or more prior to application.
5. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.
6. As residential septage contains relatively low levels of metals, the testing of metals in septage is not required.

SECTION I– CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical and lagoons) and sludge or biosolids storage and treatment facilities. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all sludges and/or biosolids. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Biosolids or sludge that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Biosolids and sludge shall meet the monitoring and land application limits for agricultural rates as referenced in Section G, above.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre. Alternative, site-specific application rates may be included in the closure plan for department consideration.
        i. PAN can be determined as follows:
        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application. Alternative volitalization factors and mineralization rates can be utilized on a case-by-case basis
4. Domestic wastewater treatment lagoons with a design treatment capacity less than or equal to 150 persons, are "similar treatment works" under the definition of septage. Therefore the sludge within the lagoons may be treated as septage during closure activities. See Section B, above. 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 a 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 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Biosolids or sludge left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, and unless otherwise approved, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion. Alternative biosolids or sludge and soil mixing ratios may be included in the closure plan for department consideration.
6. Lagoon and earthen structure closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200.
7. When closing a mechanical wastewater plant, all biosolids or sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate

surface water drainage without creating erosion.

b. Hazardous Waste shall not be land applied or disposed during mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations pursuant to 10 CSR 25.

c. After demolition of the mechanical plant, the site must only contain clean fill defined in Section 260.200.1(6) RSMo as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill, reclamation, or other beneficial use. Other solid wastes must be removed.

8. If biosolids or sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or I, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for 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 Part 503, Subpart C.

SECTION J – MONITORING FREQUENCY

1. At a minimum, biosolids or sludge shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

Biosolids or Sludge produced and disposed (Dry Tons per Year)	Monitoring Frequency (See Notes 1, and 2)		
	Metals, Pathogens and Vectors, Total Phosphorus, Total Potassium	Nitrogen TKN, Nitrogen PAN[1]	Priority Pollutants[2]
319 or less	1/year	1 per month	1/year
320 to 1650	4/year	1 per month	1/year
1651 to 16,500	6/year	1 per month	1/year
16,501+	12/year	1 per month	1/year

[1] Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

[2] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) are required only for permit holders that must have a pre-treatment program. Monitoring requirements may be modified and incorporated into the operating permit by the Department on a case-by-case basis.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. Permittees that operate wastewater treatment lagoons, peak flow equalization basins, combined sewer overflow basins or biosolids or sludge lagoons that are cleaned out once a year or less, may choose to sample only when the biosolids or sludge is removed or the lagoon is closed. Test one composite sample for each 319 dry tons of biosolids or sludge removed from the lagoon during the reporting year or during lagoon closure. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit.
4. Biosolids and sludge monitoring shall be conducted in accordance with federal regulation 40 CFR § 503.8, Sampling and analysis.

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 Standard Conditions PART III and any additional items in the Special Conditions section of this permit. This shall include dates when the biosolids or sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
   a. By February 19th of each year, applicable facilities shall submit an annual report for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and biosolids or sludge disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when biosolids or sludge are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Form. The annual report shall be prepared on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:
   Major facilities, which are those serving 10,000 persons or more or with a design flow equal to or greater than 1 million gallons per day or that are required to have an approved pretreatment program, shall report to both the Department and EPA if the facility land applied, disposed of biosolids by surface disposal, or operated a sewage sludge incinerator. All other facilities shall maintain their biosolids or sludge records and keep them available to Department personnel upon request. State reports shall be submitted to the address listed as follows:

   DNR regional or other applicable office listed in the
   permit (see cover letter of permit)
   ATTN: Sludge Coordinator

Reports to EPA must be electronically submitted online via the Central Data Exchange at: https://cdx.epa.gov/ Additional information is available at: https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws

5. Annual report contents. The annual report shall include the following:
    a. Biosolids and sludge testing performed. If testing was conducted at a greater frequency than what is required by the permit, all test results must be included in the report.
    b. Biosolids or sludge quantity shall be reported as dry tons for the quantity produced and/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.
        i. This must include the name and address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If using a contract hauler, provide a copy of a signed contract 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 biosolids or sludge use permit.
    g. Land Application Sites:
        i. 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 a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the "Low Metals" criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH and phosphorus. If no soil was tested during the year, report the last date when tested and the results.

Background Information for NPDES Permit Renewal

Missouri State Operating Permit (MSOP) MO-0000931

Prepared for
Kingsford Manufacturing Company
Belle, Missouri

June 2019

RECEIVED
JUN 27 2019
Water Protection Program

1001 Diamond Ridge, Suite 1100
Jefferson City, MO 65109
573.638.5000
www.barr.com

Background Information for NPDES Permit Renewal

June 2019

Contents

List of Tables

List of Figures

List of Appendices, Attachments, or Exhibits

Certifications

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

Allison L. Pearson
PE #: 2014016993

June 20, 2019
Date

1.0 Purpose and Scope

The purpose of this report is to provide water quality information in support of the renewal application for Kingsford Manufacturing Company's (Kingsford) National Pollutant Discharge Elimination System (NPDES) Permit, Missouri State Operating Permit (MSOP) (MO-0000931). The current permit, issued September 1, 2017, will expire on December 31, 2019.

2.0 Facility Background

Kingsford owns and operates a charcoal briquet manufacturing facility located at 21200 Maries Rd. 314, Belle, Maries County, Missouri approximately five and a half miles south of the City of Belle, Missouri. A map of the plant location, including the property boundary and outfalls, is provided in Figure 1.

The plant site consists of an office building, manufacturing area, packaging and storage buildings, a sanitary plant, and a dozer shed. The plant also has primary, secondary, and tertiary settling ponds for the treatment of process water and stormwater collected from the manufacturing area. The plant property is approximately 220 acres. However, the plant operations, only occupy approximately 304,400 square feet. Other than the area immediately surrounding the plant, most of the acreage is wooded. Land use of adjoining property includes farming and private recreational/residential use. The closest body of water is a Tributary to Dry Fork Creek.

2.1 Site-Specific Permit Outfalls

Kingsford currently has three permitted outfalls under MSOP MO-0000931, Outfalls 001-003. Former Outfalls 004 and 005 were eliminated during a permit renewed on February 7, 2011. The following table summarizes pertinent information for each outfall, including location and receiving water. Additional description on the outfalls is included in the following table.

Table 1 Outfalls Locations and Receiving Water

Outfall	Source of Discharge	Outfall Locations (UTM Zone 15N)		Receiving Water
		Easting (X)	Northing (Y)	
001	Sanitary Wastewater	610794	4230923	Tributary to Dry Fork
002	Process Water and Stormwater	610609	4231044	Tributary to Dry Fork
003	Stormwater	610803	4230915	Tributary to Dry Fork

The sanitary plant treats sanitary wastewater from employee facilities and includes treatment by extended aeration, sock filtration, and UV disinfection. The wastewater discharges at Outfall 001 and solids are disposed of periodically by a contract hauler.

Process wastewater from charcoal manufacturing and stormwater is treated by a series of settling ponds (primary, secondary, tertiary). Water is used for irrigation or is discharged at Outfall 002 to a Tributary to Dry Fork Creek. Wastewater consists of process water including facility wash down water, firefighting water, boiler blow down water, and retort seal water and stormwater from the site manufacturing areas. Treated wastewater is recycled as much as possible into the manufacturing process. Solids are periodically removed from the settling basins and recycled back into the manufacturing process.

Stormwater from non-process areas that are not captured in the drainage to Outfall 002 is discharged through Outfall 003. A lake on the property to the east of the manufacturing area at times overflows to

form the beginning of the unnamed tributary to which Outfalls 001, 002, and 003 discharge. Note, an E. coli sample of 1,986 col/100 mL was collected from Outfall 003 in April 2019. This is believed to be due to upstream land uses for cattle grazing, which drains to the plant lake and Outfall 003. Kingsford has been in contact with the landowner to work to improve runoff conditions onto their property. In addition, geese periodically populate the plant lake, which could also contribute to E. coli.

A water balance flow schematic identifying all sources and flow rates of process wastewater at the facility was submitted in the permit renewal application. The maximum design flow for Outfall 001 is 0.006 million gallons per day (MGD), while the average daily flow is 0.0017 MGD. The maximum design flow for Outfall 002 is 0.29 MGD, while the average daily flow is 0.09 MGD. The maximum design flow was used in the calculation of effluent limitations. The maximum design flow for Outfall 003 is 13.28 MGD, while average flows are dependent upon precipitation. Table 2 outlines applicable flow information for each outfall. It should be noted, discharge monitoring report (DMR) data has been incorrectly reported with units of 1,000 gallons per day, as opposed to million gallons per day. Values in the dataset have been corrected prior to calculating the average daily flow and maximum daily flow, as reported in Form C. The facility will take necessary steps to prevent future unit reporting errors on DMRs and is also currently considering upgraded flow monitoring options for the facility.

Table 2 Outfall Sources and Flows

Outfall	Activities Contributing to Flow	Design Flow	Average Flow
001	Office and plant sanitary wastewater flows.	0.006 MGD	0.0017 MGD
002	Process wastewater from charcoal manufacturing and stormwater. Flows to a series of settling ponds followed by irrigation or discharge.	0.29 MGD	0.09 MGD
003	Stormwater runoff from industrial area not captured by Outfall 002.	13.28 MGD	Dependent upon precipitation

2.2 Pollutants of Concern (POC)

Pollutants that are likely to be present in the discharge and are regulated by the Missouri Department of Natural Resources (MDNR) under 10 CSR 20-7.031 have been identified as POC based on sampling conducted as part of permit reissuance.

The following POC have been identified for Outfall 001:

- Biochemical Oxygen Demand, 5-day (BOD_5)
- E. Coli
- Total Suspended Solids (TSS)
- Ammonia as Nitrogen

The following POC have been identified for Outfall 002:

- Chemical Oxygen Demand (COD)
- Chloride plus Sulfate
- Oil & Grease
- Phenol
- TSS

The following POC have been identified for Outfall 003:

- Oil & Grease
- TSS

Table 3 outlines parameters for which there are existing permit limits or monitoring requirements.

Table 3 Summary of Existing Limits

Outfall	Parameter	Daily Max	Monthly Average	Benchmarks	Frequency
001	BOD	45 mg/L	30 mg/L	-	Quarterly
	TSS	45 mg/L	30 mg/L	-	
	pH	6.5 to 9.0 SU	6.5 to 9.0 SU	-	
	Ammonia as N	*	*	-	
	E. coli (April 1 – Oct 31)	1,030 #/100 ml	206 #/100 ml	-	
	Flow	*	*	-	
002	COD	*	*	-	Monthly
	Oil & Grease	15 mg/L	10 mg/L	-	
	pH	6.0 to 9.0 SU	6.0 to 9.0 SU	-	
	TSS	110 mg/L	70 mg/L	-	
	Flow	*	*	-	
	Temperature	*	*	-	
003	COD	*	*	-	Quarterly
	pH	*	-	6.5 to 9.0 SU	
	TSS	*	-	-	
	Flow	*	-	-	
	Precipitation	*	-	-	

Note: Asterisk (*) denotes monitoring required, dash (-) denotes no criteria required for parameter.

3.0 Receiving Water Classifications and Criteria

This section will identify the water body classifications, Water Quality Criteria (WQC), background water quality data, and low-flow evaluations of the receiving waters. As detailed in Table 1, the facility discharges to the Tributary to Dry Fork Creek. Outfalls 001, 002, and 003 discharge to the Tributary to Dry Fork Creek (WBID 3960).

3.1 Water Body Classifications/Designated Beneficial Use

The Tributary to Dry Fork Creek is a Class C water body with designated uses of warm water aquatic life and human health-fish consumption (AQL), livestock and wildlife watering (LWW), irrigation for use on crops utilized for human or livestock consumption (IRR), secondary contact recreation (SCR), and whole body contact recreation Class B (WBC).

3.2 Water Quality Criteria (WQC)

The following sub-sections outline WQC that are applicable to the currently permitted surface water discharges to Tributary to Dry Fork Creek. WQC establish the required numeric water quality in the receiving stream that is used in the permitting process to establish effluent limits for the NPDES discharge permits to protect the designated beneficial uses and associated water quality criteria of the receiving water body.

3.2.1 Numeric Criteria

Numeric criteria are established in Table A of 10 CSR 20-7.031 and are used for the calculation of water quality-based effluent limits (WQBEL) for the facility. Table 4 outlines the applicable numeric WQC for the POC identified in Section 2.2.

Table 4 Tributary to Dry Fork Numeric WQC for POC

POC	Outfall No.	Units	Protected Use						Citation
			AQL		HHF	DWS	IRR	LWW	
			CMC[1]	CCC[2]					
Ammonia (as N)[5]	001	mg/L	12.1 winter 12.1 summer	3.1 winter 1.51 summer	-	-	-	-	Tables B1 and B3[6]
BOD	001	mg/L	45	30	-	-	-	-	Technology-Based
Chloride + Sulfate	002	mg/L	1,000	1,000	-	-	-	-	10 CSR 20-7.031(5)(L)[3]
E. coli (April 1 – Oct 31)	001	cfu/#100 mL	206, April 1 – Oct 31			-	-	-	Table A[6]
Oil & Grease	002, 003	mg/L	-	10	-	-	-	-	Table A[6]
pH	001, 002, 003	SU	-	6.5-9.0	-	-	-	-	10 CSR 20-7.031(5)(E)[3]
TSS	001, 002, 003	mg/L	45	30	-	-	-	-	Technology-Based

Notes:

(1) Criteria maximum concentration (acute).
(2) Criteria continuous concentration (chronic).
(3) Citation based upon the January 29, 2019 Code of State Regulations.
(4) Seasonal ammonia is for summer (April-September) and winter (October-March).
(5) Ammonia criteria are based on a default pH of 7.8 and a temperature of 6°C winter and 26°C summer.
(6) Tables A1, A2, B1, and B3 are located in 10 CSR 20-7.031.

3.2.2 Narrative Criteria

All waters of the state are subject to narrative criteria as outlined in 10 CSR 20-7.031(4). In general, the narrative criteria prohibit conditions that may degrade the aesthetic value, degrade the aquatic habitat, or negatively impact the designated uses of the water. The narrative criteria are as follows:

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly, or harmful bottom deposits or prevent full maintenance of beneficial uses;

(B) Waters shall be free from oil, scum, and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses;

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life;

(E) There shall be no significant human health hazard from incidental contact with the water;

(F) *There shall be no acute toxicity to livestock or wildlife watering;*

(G) *Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community;*

(H) *Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment, and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to sections 260.200–260.247, RSMo;*

(I) *Waters in mixing zones, ephemeral aquatic habitat and waters of the state lacking designated uses shall be subject to the following requirements:*

1. *The acute toxicity criteria of Tables A and B and the requirements of subsection (5)(B); and*
2. *The following whole effluent toxicity conditions must be satisfied:*
   - A. *Single dilution method. The percent effluent at the edge of the zone of initial dilution will be computed and toxicity tests performed at this percent effluent. These tests must show statistically-insignificant mortality on the most sensitive of at least two (2) representative, diverse species; and*
   - B. *Multiple dilution method. An LC50 will be derived from a series of test dilutions. The computed percent effluent at the edge of the zone of initial dilution must be less than three-tenths (0.3) of the LC50 for the most sensitive of at least two (2) representative, diverse species.*

3.2.3 Special Protections

The Tributary to Dry Fork Creek has no known impairments or special protections as outstanding resource water or other applicable categories.

3.3 Background Water Quality Data

There is no United States Geological Survey (USGS) gage data for Dry Fork Creek; therefore, there is no site-specific background water quality data.

3.4 Low-Flow Evaluation

There is no USGS gage data for Dry Fork Creek; therefore, there is no background flow data. Table 5 outlines the assumed low-flow values in the absence of gage data.

Table 5 Receiving Stream Low-Flow Values

Outfall	Receiving Stream	Low-Flow Values (cfs)		
		1Q10	7Q10	30Q10
All	Tributary to Dry Fork Creek	0.0	0.0	0.1

4.0 Effluent Limitation Guidelines (ELG)

The applicability of the ELG at 40 CFR 454, *Gum and Wood Chemicals Manufacturing Point Source Category*, has been previously discussed with MDNR. Kingsford is appreciative of the time and effort MDNR put into previous discussions and has included historic correspondence with the agency in Appendix A. Previous communications have documented the fact that Kingsford uses a different technology than indicated for 40 CFR 454. As such, the facility does not produce waste streams associated with the ELG and it is not applicable to the facility and completion of Form D is not required.

5.0 Reasonable Potential Analysis (RPA)

A RPA was conducted using data from Outfall 001 and 002 for the following parameters:

- Outfall 001: Ammonia as N
- Outfall 002: Chloride + Sulfate, Phenol

The results of the RPA are listed in Table 6. Worksheets for the RPA are included in Appendix B. From this analysis, none of the parameters were found to have reasonable potential to exceed the WQC.

Calculations were based on the WQC as outlined in Tables A1, B1, and B3 of 10 CSR 20-7.031. Both acute and chronic receiving water concentrations were calculated through mass balance equations using receiving stream background concentrations, flows, and average flows for Outfall 001 and 002. The 7Q10 low flow is less than 0.1 cubic feet per second (cfs); therefore, mixing is not allowed.

The chloride + sulfate criteria for the protection of aquatic life applicable to the Tributary to Dry Fork Creek is outlined in 10 CSR 20-7.031(5)(L)1:

> *Streams with 7Q10 low flow of less than one cubic foot per second (1 cfs). The concentration of chloride plus sulfate shall not exceed one thousand milligrams per liter (1,000 mg/L). Table A1 includes additional chloride criteria.*

Since the 7Q10 of the Tributary to Dry Fork Creek was assumed to be less than 0.1 cfs, the chloride plus sulfate criteria was determined to be 1,000 mg/L for chronic and acute criteria.

Table 6 RPA Results for Outfall 001 and 002

Parameter	Outfall No.	CMC	RWC Acute	CCC	RWC Chronic	Reasonable Potential
Ammonia, Total as Nitrogen (mg/L) – Summer(1)	001	12.1	1.15	1.50	1.15	NO
Ammonia, Total as Nitrogen (mg/L) – Winter(1)	001	12.1	2.79	3.1	2.79	NO
Chloride + Sulfate (mg/L)(2)	002	1,000	603	1,000	603	NO
Phenol (ug/L)(3)	002	5,293	4.8	2,560	4.8	NO

Notes:

(1) Ammonia calculations are based on a default pH of 7.8 and a temperature of 6°C winter and 26°C summer and 10 CSR 20-7.031 Tables B1 and B3.

(2) Values based upon 10 CSR 20-7.031(5)(L)1.

(3) Values based upon 10 CSR 20-7.031 Table A1.

6.0 Stormwater Management

This section is intended to provide more information on stormwater drainage areas, types of surfaces, and best management practices (BMPs) implemented on the site in support of Section 4.0 of Form C. A map of the site sub-watersheds is included as Figure 2.

All storm water from manufacturing, processing, chemical storage areas, parking, and truck unloading areas drains to the southwest portion of the site where it is treated in settling basins prior to discharge form Outfall 002 or irrigation. The total surface area draining to the ponds is about 11 acres. Rainfall during an average year accounts for about 8.1 million gallons of storm water runoff. Process and wash waters also flow to the same treatment basins via surface flow on paved surfaces or via culverts. Process waters account for about six million gallons annually and wash waters contribute about 1.9 million gallons each year.

There are two primary, a secondary, and a tertiary treatment basin in the system. The primary basins include a concrete moat forebay with a drag chain and two concrete lined basins that operate in parallel and have a combined capacity of approximately 420,000 gallons. The drag chain removes solids that settle in the moat. Solids that settle in the basins are periodically removed by a front-end loader.

Water from the primary basins goes to a secondary basin approximately 1.8 million gallons in size and then flows to a tertiary basin with a storage volume of approximately 0.8 million gallons for additional solids removal. About 30,000 gallons per day of water from the collection system is pumped back from the tertiary basin for use in the manufacturing process. The tertiary basin has a valve outlet allowing for controlled discharges as needed.

6.1 Stormwater Pollution Prevention Plan (SWPPP)

The facility's SWPPP identifies sources of potential stormwater pollutants for the facility, stormwater runoff flow patterns, and BMPs to control the pollutants contained in the runoff for the facility. The BMPs utilized at the facility are intended to control, treat, and reduce pollutants contained in stormwater runoff discharged from the facility outfalls to concentrations that are protective of the WQC of the receiving water body.

6.1.1 Stormwater Best Management Practices (BMPs)

BMPs that are implemented by Kingsford include minimizing exposure, good housekeeping, maintenance, stormwater/process water treatment basins, moat forebay and drag chain, dredge primary basins, irrigation of land application areas, spill prevention measures, wastewater treatment plant, and a vegetative swale. Table 7 gives a summary of BMPs and the process/activity.

Table 7 Summary of BMPs

Process Activity/Material		Minimize Exposure	Good Housekeeping	Maintenance	Stormwater/Process Water Treatment Basins	Moat and Drag Chain	Dredge Primary Basins	Irrigation of Land Application Area	Spill Prevention Measures	Spill Response Measures	Wastewater Treatment Plant	Vegetative Swale
Industrial Activities	Plant Fugitive Emissions			X	X	X	X	X				
	Sawdust Fugitive Emissions				X	X	X	X				
	Solvent Pretreat Process	X		X	X				X	X		
	Plant Process Water				X	X	X	X	X			
	Plant Washdown Water				X	X	X	X				
	Domestic Wastewater										X	
Spills/Leaks of Petroleum and Chemicals	Vehicles		X	X	X	X	X	X	X	X		
	Bone Yard		X									X
	Maintenance Shop	X	X		X				X	X		
	Oil Storage Shed	X	X		X				X	X		
	Packaging Building	X	X		X				X	X		
	Yard Maintenance Shop	X	X		X				X	X		
	Dozer Shed	X	X		X				X	X		
	Hydraulic Oil Tanks		X		X				X	X		
	Solvent/Fuel Oil Storage Tank Farm		X						X	X		
	Diesel Storage		X		X				X	X		
	Lighter Fluid Building	X	X						X	X		
	Mitchell Shed	X	X						X	X		
Raw Materials Storage	Sawdust				X	X	X	X				
	Char	X			X	X	X	X				
	Lime	X			X	X	X	X				
	Borax	X			X	X	X	X				
	Starch	X			X	X	X	X				
	Charcoal				X	X	X	X				
Other	Refuse and Debris	X	X									
	Employee Car Wash											X

6.2 Sampling of Stormwater

By design, stormwater runoff from the active operational portion of the facility is collected, treated in the facility's sedimentation basins, sampled, and then recycled as much as possible into the manufacturing process, irrigated, or discharged via Outfall 002 to the Tributary to Dry Fork Creek. Stormwater not collected in the sedimentation basins is discharged at Outfall 003.

The facility analyzes each outfall that had a recorded discharge during the permit period for a list of pollutants. Concentrations of parameters indicate that sufficient BMPs and stormwater management processes are in place for all outfalls.

7.0 Land Application System

Land application of wastewater from Outfall 002 is performed to minimize discharges to the Tributary of Dry Fork Creek. Since the previous renewal, there have been no changes to the land application system. The land application system consists of a six-acre field with heavy vegetation, mainly in the form of tall grasses, with nine large rain-bird type sprinkler heads that distribute wastewater over the field. Six of the sprinkler heads are currently operating. Wastewater is pumped to this system from the Tertiary Basin. This system is divided into three legs – Leg A, Leg B, and Leg C. Each leg has an electrically actuated ON/OFF valve at the beginning of the leg to control flow of wastewater to that leg. A Programmable Logic Controller (PLC) is used to control the valve positions and timing once the system has been turned on. Table 8 outlines parameters in the land application system for which there are monitoring requirements.

Table 8 Summary of Monitoring Parameters for Land Application

Outfall	Parameter	Unit	Daily Max	Minimum Sampling Frequency	Minimum Reporting Frequency
002	Application Area	Acres	*	Once/Day/Event	Quarterly
	Application Rate	Inches/acre	*	Once/Day/Event	Quarterly
	Irrigation Period	Hours	*	Once/Day/Event	Quarterly
	Volume Irrigated	Gallons	*	Once/Day/Event	Quarterly

Note: Asterisk (*) denotes monitoring required.

7.1 General Provisions

The following general provisions apply to land application and are met at the Kingsford facility:

- No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.
- Land application shall occur only during daylight hours.
- Land application fields shall be checked daily during land application for runoff. Spray irrigation shall be monitored for the drifting of spray across property lines.
- Setback distances:
    - 300 feet of any well, sinkhole, losing stream, wetland, or cave entrance, water supply impoundment or stream intake;
    - 150 feet of an occupied residence, public building, or public use area;
    - 50 feet of gaining perennial or intermittent stream, public or privately owned pond or lake;
    - 50 feet of property line or public road.

- The application rate shall not exceed the design hydraulic loading rate listed in the facility description.
- Each day, the facility must log the information included in the Land Application Table.

7.2 Operation

To minimize discharge from in the Tertiary Holding Basin at Outfall 002, excess wastewater that cannot be reused in the plant is pumped to the irrigation system only under conditions that will not cause runoff from application area.

To prevent runoff from the irrigation system, the system is divided into three legs – Leg A, Leg B, and Leg C. Each leg has three sprinklers, however only two sprinklers are currently operating at each leg. There is an electrically actuated ON/OFF valve at the beginning of the leg to control flow of wastewater to that leg. When the system is turned on, the PLC will open Leg A for 15 minutes to apply wastewater to that section of the field. At the end of the 15 minutes, the PLC opens the valve to Leg B and closes the valve to Leg A and the system applies wastewater to that section of the field for 15 minutes. This continues until the system has cycled through all three legs, or A-B-C. This applies wastewater to the field for a total of 45 minutes. At the capacity of the pumps outlined and system losses, the system applies approximately 17,500 gallons in these 45 minutes. The time interval between operation cycles is maximized to allow as much wastewater to absorb into the ground as possible, while at the same time maintaining the freeboard level in the Tertiary Basin. Application rates vary per acre, but based upon recent operating data (2016-2018), the system operates approximately 409 hours per year. The average number of gallons land applied per year is 2,308,095 gallons. Data from 2016-2019 is believed to be most representative of facility operations and was used to complete Form I.

The Briquet Operator is responsible for determining when the land application system should be turned on, taking the following into account:

- Maintain freeboard level in the Tertiary Basin
- Land apply only during daylight hours to the extent practicable
- Do not land apply during frozen, snow covered, or saturated soil conditions

Each time the system is turned on, the Briquet Operator visually inspects the system for equipment malfunctions and to verify that there is no runoff from the land application area. The Briquet Operator keeps records in the Irrigation System Log for the items listed below:

- The date and time the system was turned on
- The duration of the cycle (default is 45 minutes)
- Any equipment malfunctions observed
- Weather conditions
- Verification of no runoff
- The Briquet Operator's initials

If the Briquet Operator observes anything unusual (i.e. equipment malfunctions), he or she contacts the plant Environmental Coordinator. The plant Environmental Coordinator reviews the Irrigation System Log on a routine basis to verify it is being filled out properly.

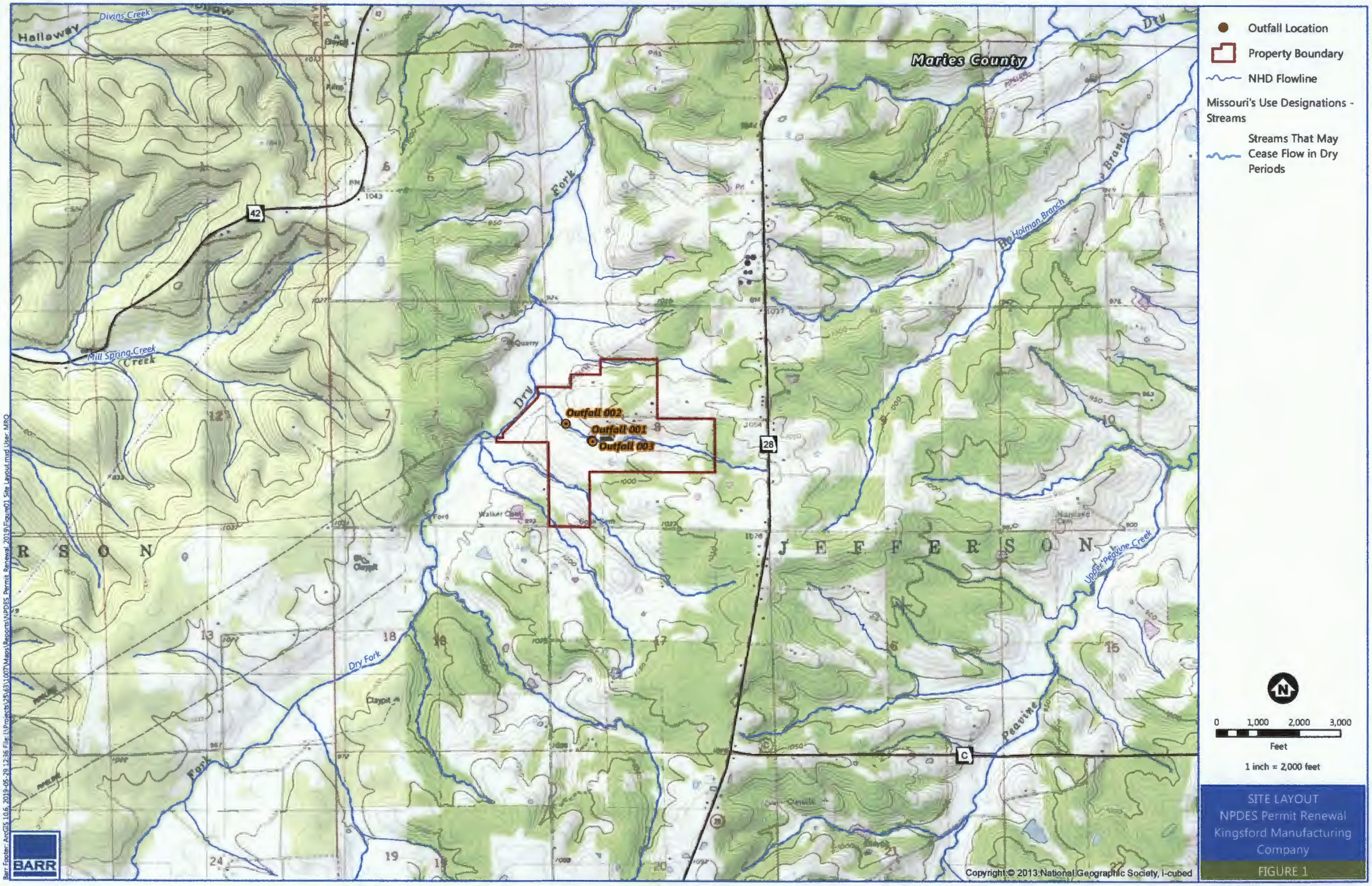
8.0 Summary, Conclusion, Recommendations

As previously discussed, this report is intended to serve as a supplementary document for the renewal of Kingsford's MSOP. There have been no operational changes to the facility or land application system since the previous renewal. As such, there are no requested modifications to the permit.

9.0 References

Barr Engineering Co., 2011 (Revised 2015). Stormwater Pollution Prevention Plan Kingsford Mfg. Co. Belle, Missouri Plant (MO-0000931). Prepared for Kingsford Mfg. Co. June 2015.

Figures



Hallaway
Divins Creek
Mill Spring Creek
Creek
Dry
Fork
Dry Fork
Quarry
Walker Cem
Outfall 002
Outfall 001
Outfall 003
Maries County
Holman Branch
Branch
Upper Peavine Creek
Peavine
J E F F E R S O N
R S O N
42
28
C
Outfall Location
Property Boundary
NHD Flowline
Missouri's Use Designations - Streams
Streams That May Cease Flow in Dry Periods
0 1,000 2,000 3,000
Feet
1 inch = 2,000 feet
SITE LAYOUT
NPDES Permit Renewal
Kingsford Manufacturing Company
FIGURE 1
Copyright © 2013 National Geographic Society, i-cubed
BARR
Barr Footer: ArcGIS 10.6, 2019-05-29 12:36 File: I:\Projects\25\63\1007\Maps\Reports\NPDES Permit Renewal 2019\Figure01 Site Layout.mxd User: MRO


Outfall 002 Sub-Watershed
17.8 acres
Outfall 003 Sub-Watershed
19.8 acres
Outfall 002
Outfall 001
Outfall 003
COUNTY RD 314
COUNTY RD 315
Outfall Location
Flow Direction
Site-Specific Outfall Sub-Watershed
Property Boundary
NHD Flowline
Missouri's Use Designations - Streams
Streams That May Cease Flow in Dry Periods
0
425
Feet
1 inch = 425 feet
SUB-WATERSHED MAP
NPDES Permit Renewal
Kingsford Manufacturing Company
FIGURE 2
BARR

Appendices

Appendix A

Historic Correspondence with MDNR

Kingsford Manufacturing Company

February 26, 2010

Via First-Class Mail

Bruce Volner, Environmental Engineer
Missouri Department of Natural Resources
Rolla Satellite Office
P.O. Box 250
111 Fairgrounds Road
Rolla, MO 65402

Re: Interpretation of 40 C.F.R. 454, Subpart A and 40 C.F.R. 401.11;
Draft Missouri State Operating Permit # MO0000931;
Kingsford Manufacturing Co., Belle, Maries County

Dear Mr. Volner:

This letter is a second follow up to our conversation on January 15, 2010 with you, Mike Hefner and Keith Forck. As you recall, we agreed to send two letters after the meeting, one to provide comments that could be considered quickly and another that would outline those issues which would require discussion with the Missouri Department of Natural Resources' (the "Department") Water Protection Program permitting staff. This letter addresses those issues which you and Mr. Hefner felt would require additional follow up with the program; in particular, the change in the facility description as a "no-discharge" facility.

The permit fact sheet under "DERIVATION AND DISCUSSION OF INTERIM AND/OR FINAL EFFLUENT LIMITATIONS" states that:

> Charcoal Manufacturing. Federal regulation [40 C.F.R. 454], Protection of Environment, Environmental Protection Agency, Gum and Wood Chemicals Manufacturing Point Source Category, applies. Said Federal regulation requires that there shall be no-discharge of process wastewater. As defined in [40 C.F.R. 401.11], Protection of Environment, Environmental Protection Agency, General Provisions, General Definitions, process waste water means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. Previous state operating permits allowed for partial irrigation and discharge based on ability to land apply wastewater. Stormwater and process wastewater are comingled into holding basins tributary to Outfall # 002. Once comingled, said waters cannot be separated in the holding

21200 Maries Road 314
Belle, MO
65013

(573) 859-3316
FAX: (573) 859-3506

> basins, and therefore, all water held in the holding basins must be land applied in a "no-discharge" manner.

Kingsford disagrees that the Belle, Maries County facility (the "Belle Facility") should, for the first time since it began operating in 1955, be permitted as a "no-discharge" facility. The Department mistakenly relies on the 1976 Effluent Limitation Guideline ("ELG") for the Gum and Wood Chemicals Manufacturing Point Source Category, as the basis for the "no-discharge" limitation. As explained more fully below, the Facility is entitled to an individualized technology-based effluent limitation as currently established in its existing NPDES permit because this ELG is not applicable to the Facility or, alternatively, if it is applicable, the Facility is entitled to a variance, which would permit this discharge of process wastewater.

I. Background

The Belle Facility began operating in 1955. All prior NPDES permits for the plant have allowed the discharge of stormwater and wastewater. In 1994, the Facility underwent a substantial reconfiguration, with the installation of a retort furnace which allowed it to produce its own char. By definition, a retort is a vessel or chamber in which substances are distilled or decomposed by heat. *Merriam-Webster Online Dictionary* (Feb. 15, 2010). The Facility's retort system includes wood storage, sizing, and handling equipment, a rotary wood dryer, and a multi-hearth continuous charcoal furnace (*i.e.*, retort). The retort furnace is an entirely contained system with superior environmental controls compared to a kiln system for manufacturing char. Off-gases from the retort system are used to heat the wood dryer, a waste-boiler, and the briquet dryers. The char from the retort furnace is conveyed to storage silos and then it is mixed with starch, water and other materials to form a paste. This paste then undergoes the briquet batching operation where it is further processed in a mix muller and formed into briquets in the press roll. The briquets are then dried using one of three briquet dryers. Following drying, the briquets are cooled and then conveyed either directly to packaging or storage or treated with solvent. The solvent-treated briquet ("STB") process coats the briquet with a petroleum-based solvent to form Kingsford's STB products (*e.g.*, Matchlight®).

As noted in the draft permit, stormwater and water from the Facility operations are comingled in the same treatment basins at the Facility. The wastewater that is managed in the Facility's water treatment ponds comes from: (1) water used for the retort furnace seals; (2) wash-down water used around the briquet dryers and coolers to control dust as a housekeeping, occupational safety and fire prevention measure; and (3) blowdown water from the boiler. The water used in the briquet batching operation is contained and isolated from the other operations. Any residual water from the batching operation is captured and reused in the process and not discharged. Stormwater within the manufacturing area at the Facility is also collected and treated in the wastewater treatment ponds.

Over the years, Kingsford has spent significant resources to update the Facility. For example, the air pollution control technology used on a retort furnace reduces the amount of particulate matter emissions, as compared to an uncontrolled kiln, from approximately 266 pounds per ton of product to 8.5 pounds per ton of product. Considerable progress has also been made with material storage and housekeeping standards. For example, raw materials (excluding the wood pile) are now stored in self-contained storage units. These housekeeping and storage improvements have significantly reduced the amount of stormwater coming into contact with any materials or product.

Kingsford has also spent significant resources to configure and operate the plant to comply with the current and prior NPDES permits. The areas receiving wastewater and stormwater drain to the same location and are comingled in the existing treatment ponds, which promote treatment through settling and aeration. The majority of the pond effluent is then pumped to an irrigation system, which removes additional pollutants through overland flow.

Even if operating at no discharge at the Facility is determined to be technically feasible, Kingsford would have to (1) increase wastewater storage capacity by approximately 10 times the current capacity and quadruple its irrigation acreage; or (2) retrofit the plant entirely to separate stormwater and wastewater. Either option will involve considerable expense and downtime for the facility and could impact the viability of the operation at this location, as the costs of these changes could easily exceed $1,000,000 -- an amount we contend is economically infeasible.

II. The Belle Facility is Entitled to Have an Individualized Technology-Based Effluent Limitation Because 40 C.F.R. 454, Subpart A is Not Applicable to the Facility

Kingsford requests that the Department consider an individualized technology-based effluent limitation like that currently established in its existing NPDES permit for the Belle Facility with appropriate limits that are based on applicable treatment technologies and water quality protections for the receiving stream pursuant to 40 C.F.R. § 125.3(c).

This section of NPDES regulations allows a state permit writer to establish technology-based effluent limitations on a case-by-case basis, using best professional judgment, where EPA-promulgated effluent limitations are inapplicable. *See* 40 C.F.R. § 125.3(c)(2). Additionally, 40 C.F.R. § 125.3(c)(3) allows a state permit writer to establish technology-based effluent limitations on a case-by-case basis, *e.g.*, a blended limit, "[w]here promulgated effluent limitations guidelines only apply to certain aspects of the discharger's operations. . ."

In establishing a case-by-case limitation for the best practicable control technology currently available ("BPT"), the permit writer is to consider: (1) the cost of the technology versus effluent reduction benefits; (2) the age of equipment and facilities involved; (3) the process employed; (4) the engineering aspects of the application of various types of control techniques; (5) process changes; and (6) non-water quality environmental impact. *See* 40 C.F.R. § 125.3(d)(1).

As described more fully in the following sections, the ELG that purportedly applies to the Belle Facility process, 40 C.F.R 454, Subpart A, is inapplicable and thus, the Department should consider an individualized technology-based effluent limitation.

A. 40 C.F.R. 454, Subpart A is Not Applicable to the Belle Facility Manufacturing Process Because the Process is Critically Different From the Processes Evaluated in Setting this ELG.

40 C.F.R. 454, Subpart A establishes a BPT for char and charcoal briquet manufacturing. This manufacturing sector is one of six subcategories (*e.g.*, gum rosin, wood rosin, turpentine, etc.) that belong to the entire ELG for the Gum and Wood Chemicals Manufacturing Point Source Category that was developed by U.S. EPA in 1976. At first glance, one could assume that this ELG would be applicable to the Belle Facility process since it involves charcoal manufacturing. However, a close analysis of how this ELG was developed reveals that it is not applicable to the specific type of manufacturing process engaged in at the Belle Facility.

The development of the "no-discharge" ELG for the char and charcoal briquet subcategory is documented in a report published by U.S. EPA in 1976, entitled *Development Document for Interim Final Effluent Limitations, Guidelines and Proposed New Source Performance Standards for the Gum and Wood Chemicals Manufacturing Point Source Category* (the "Development Document"). The Development Document did not survey the Belle Facility and focused on one much smaller charcoal manufacturing facility that used a kiln system, an entirely different manufacturing process than that employed at the Belle Facility. *See* Development Document at 34, 35 and 136; *see also* attached photos of a kiln facility on pg. 11 and 12 and the Belle Facility on pg. 15 from MDNR Resources Magazine, Spring 2000 (These attached photos visually demonstrate the significant difference between a kiln process and a retort-based process). Based on the survey of the one smaller facility in the Development Document, U.S. EPA found that the char and charcoal manufacturing process, using a kiln system, "***discharges no process wastewaters.***" *See* Development Document at 115-117; *see also* 41 Fed. Reg. 20506, 20507 (May 18, 1976) ("Subcategory A (production of char and charcoal briquets via carbonization of hardwood and softwood) is a net water consumer and discharges no process wastewaters. . ."). Thus, based on this fundamental conclusion, U.S. EPA found that "no-discharge of process wastewater pollutants" is consistent with the BPT and made it the ELG for this subcategory that was using a kiln-based manufacturing process. *Id.*

Because the ELG for char and charcoal briquet subcategory is specific to a kiln-based manufacturing process, it cannot be applicable to the Belle Facility, which uses an entirely different manufacturing process. As noted above, the Belle Facility's manufacturing process involves a sophisticated char manufacturing system that uses a retort furnace, which is an enclosed system, instead of a kiln system that is described in the Development Document. A kiln system manufactures char in an entirely different way from a retort system. A kiln system burns wood in discrete batches. The wood is first loaded into a kiln, then pyrolyzed through a week-long burning

process and then the char from the kiln is emptied after a cooling process using quench water. The quench water, which is stored in ponds, is reused for the next batching process.

In contrast, a retort system involves passing wood continuously through a series of hearths, where it is burned and then quenched upon discharge. The char is constantly exiting the system for further processing in the briquetting operation. Unlike a kiln, there is no excess water from quenching. Further, a retort furnace requires water to create seals to maintain its heat and proper operation. The water from retort seals must be discharged continuously to maintain such proper operation. The retort system also has the benefit of providing heat, which comes from the system's after combustion chamber ("ACC"), to operate the wood dryer, a waste-boiler, and the briquet dryers, making the system much more efficient overall as compared to a kiln, which does not capture and reuse waste heat. The boiler heated by the retort system also requires water to operate and this water must be periodically discharged, *i.e.* "blowdown," to maintain proper operation. Thus, the retort system has two specific sources of wastewater, the water used to create the seals and the boiler blowdown water, neither of which was evaluated in the ELG developed for the kiln-based system for char manufacturing.

As explained above, U.S. EPA's fundamental operational conclusion for the kiln-based ELG for char manufacturing (that it discharges no wastewaters) is not valid for the char manufacturing process at the Belle Facility and thus, this ELG cannot be applicable. The Belle Facility's retort system, consisting of the multi-hearth furnace and boiler, requires water to operate properly, which must be discharged periodically to maintain proper operation. Thus, the Belle Facility process cannot be a no-discharge system like the kiln manufacturing process described in the Development Document. In fact, where U.S. EPA, in developing this ELG for the entire gum and wood chemicals manufacturing point source category, found other manufacturing sectors that used a retort furnace such as in the wood rosin, turpentine and pine oil subcategory (Subcategory C) and the essential oils subcategory (Subcategory E) for this ELG, it specifically found that such manufacturing processes using a retort had wastewater discharge and, accordingly, established limits for the ELG. *See* Development Document at 41 (Subcategory C) and 44-45 (Subcategory E). The Belle Facility's retort furnace is similar to the ones used in these subcategories to the ELG, in that all the described retorts are either vessels or chambers in which substances are distilled or decomposed by heat (the textbook definition of a retort as noted in Section I).

Further, since 1955, the Belle Facility process has always discharged washdown water used around the briquet dyers and coolers to control dust as an occupational safety, fire prevention, and housekeeping measure. As evidenced in the Development Document, U.S. EPA did not evaluate this source of wastewater discharge for a kiln-based process. Had U.S. EPA evaluated this source of wastewater discharge or surveyed the Belle Facility process in developing the ELG, it would have likewise developed effluent limits similar to the other five manufacturing sectors in the established ELG for the gum and wood chemicals manufacturing point source category, since these other five subcategories were described as having wastewater discharge. The ELG specific to the char and charcoal manufacturing sector, which was based only on a kiln system, however, was the

only subcategory in the Development Document described as having no wastewater discharge. Accordingly, the 40 C.F.R. 454, Subpart A ELG is not applicable to the Belle Facility process because it did not take into consideration the fact that there is wastewater discharge from the retort seals, boiler blowdown and dryer washdown..

Moreover, the 40 C.F.R. 454, Subpart A ELG is inapplicable to the Belle Facility process because U.S. EPA assumed that a "no-discharge" BPT would not economically impact charcoal manufacturers. As stated in the Preamble to 40 C.F.R. 454:

> The charcoal manufacturers. . .will not be economically impacted by these regulations. Charcoal producers use a process that has no wastewater stream. . .Hence, no costs are incurred. . .due to the regulations. 41 Fed. Reg. at 20509.

However, the Belle Facility would be severely economically impacted by a "no-discharge" ELG due to today's current processes for charcoal manufacturing. Kingsford has spent significant resources to configure and operate the plant to comply with the current and prior permits, resulting in areas receiving wastewater and stormwater to drain to the same location and comingle in the existing treatment ponds. If required to operate as a no-discharge system as outlined in the draft permit, Kingsford would have to (1) increase wastewater storage capacity by approximately 10 times the current capacity and quadruple its irrigation acreage; or (2) retrofit the plant entirely to separate stormwater and wastewater. Either option will involve considerable expense and downtime for the facility and could impact the viability of the operation at this location as the costs of these changes could easily exceed reach $1,000,000. This amount is economically infeasible for Kingsford.

Thus, because U.S. EPA's fundamental assumptions for char and charcoal ELG (no discharge of wastewater and no economic impact from a "no-discharge" BPT) are completely inapplicable to the manufacturing process utilized at the Belle Facility, this ELG is not applicable. Accordingly, the Department should establish a "case-by-case" technology-based effluent limitation for the Belle Facility process like that currently established in its existing NPDES permit, and as authorized to do so under 40 C.F.R. Section 125.3(c), using its best professional judgment.

B. Alternatively, the Belle Facility Process is Entitled to an Individualized Technology-Based Effluent Limitation Based on a Blended Limit Because the ELG is Not Applicable to Stormwater; Fire, Safety and Maintenance Activities; or Non-Contact Sources of Wastewater.

As noted in Section I above, the Department has never applied a no-discharge limitation to the Belle Facility NPDES permits even though the 40 C.F.R. 454, Subpart A ELG has been in existence since the time the Facility was first permitted. Now the Department has changed its prior

BPT determination for this Facility allowing for a discharge of wastewater yet, in doing so, has not established a basis for such a change from its prior determinations of BPT. However, Kingsford is unaware of any change to 40 C.F.R. 454, Subpart A ELG that would now, after all these years, make it applicable to the Facility. Likewise, in suddenly applying the 40 C.F.R. 454, Subpart A "no-discharge" ELG to the Belle Facility process, the Department has taken an erroneously broad interpretation of process wastewater in applying it to stormwater and other wastewater at the Facility. The federal definition of "process wastewater" is:

> ... any water which, **during manufacturing or processing,** comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. 40 C.F.R. § 401.11 *(emphasis added)*.

The phrase "during manufacturing or processing" indicates that only water which comes from the actual charcoal manufacturing process would be "process wastewater." The Belle Facility uses the same briquet drying process that was used in the 1970s when the ELG was developed and these dryers have always generated washdown wastewater as a fire prevention, workplace safety and maintenance activity. However, the ELG specifically stated that the char and charcoal briquet manufacturing process generated no "process wastewaters." *See* 41 Fed. Reg. 20506, 20507. U.S. EPA could not have made this statement unless it either did not consider the washdown water to be a "process wastewater" or if it did not observe and evaluate washdown water at the facilities it surveyed in establishing the ELG. Nonetheless, U.S. EPA's interpretation is accurate under this federal definition of process wastewater since the washdown water is not generated during "manufacturing or processing." It is rather water generated as part of fire prevention, workplace safety, and maintenance activities, and thus, it cannot be considered a process wastewater.

Additionally, with regard to the ELG, U.S. EPA specifically does not consider process wastewater to include "non-contact sources" of water such as boiler blowdown, cooling water, and other similar flows. *See* Development Document at 7. Accordingly, the water generated at the Belle Facility from the boiler blowdown is not process wastewater because it is from a non-contact source.

Further, the federal "process wastewater" definition would not include (1) stormwater in contact with raw materials in storage, *e.g.*, wood materials stored away from the manufacturing process and intended to be used in the process in the future, (2) stormwater that comes into contact with minor amounts of raw material or product in paved areas outside of the process area and (3) waters generated from plant maintenance or washing. These three sources of water are not generated from either "manufacturing or processing" as outlined in the federal definition. Rather, they are the result of stormwater or maintenance activities and should not be considered part of the definition of "process wastewater." Further, the Department's interpretation of "process wastewater" to include water from such stormwater or maintenance activities in connection with a no-discharge limit would likely be invalidated by the courts. *See Hooker Chemicals & Plastics*

Corp., 537 F.2d 620, 633 (2d Cir. 1976) (invalidating EPA's 1983 ELG for phosphorous manufacturers, providing for "no-discharge" of process waste water, in part for failing to make any provision for unavoidable rainfall effluent after storms.); *see also E.I. DuPont de Nemours & Co. v. Train*, 541 F.2d 1018, 1032 (4th Cir. 1976) *affirmed in part and reversed in part on unrelated grounds by*, 430 U.S. 112 (1977) (setting aside and remanding for reconsideration the definition of process wastewater in the context of no-discharge standards for the organic chemicals sector to make clear that it does not extend to unavoidable leaks and spills.).

To the extent the Department feels compelled to suddenly change its prior evaluation of BPT for this Facility and broadly define "process wastewater," it should grant the Belle Facility an individualized technology-based effluent limitation based on a blended limit pursuant to 40 C.F.R. Section 125.3(c)(3). A blended effluent, which a state permit writer is authorized to use pursuant to 40 C.F.R. Section 125.3(c), is proper because, the 40 C.F.R. 454, Subpart A ELG, even if arguably applicable to the Facility, would only apply to the manufacturing operation itself and not the stormwater or maintenance activities. The Development Document anticipated that stormwater runoff would come into contact with raw materials and fugitive product, but did not identify that such stormwater would be subject to the ELG's no-discharge provision. *See* Development Document at 30 (" There are no wastewater discharges from the process operations in subcategory A (char and charcoal briquets))." For the operation as it is described in Section IV, Figure IV-1, **it is anticipated that storm water runoff would carry suspended solids loadings**. However, much of the dust problem and suspended solids loading in stormwater runoff could be controlled by alternate materials handling systems. Thus, the draft permit's assumption that all stormwater would become process wastewater subject to the "no-discharge" ELG is not supported by the Development Document.

Accordingly, because even the Development Document makes clear that the 40 C.F.R. 454, Subpart A ELG would only apply to certain aspects of a charcoal operation, the Department should establish a "case-by-case" technology-based effluent limitation using a blended limit taking into account that the Facility's wastewater treatment ponds contain stormwater and maintenance activities.

III. Alternatively, Kingsford Requests That the Department Grant a Variance to the 40 C.F.R. 454, Subpart A ELG Which Would Allow the Belle Facility to Treat the Combined Stormwater and Wastewater

To the extent that the Department disagrees that the 40 C.F.R. 454, Subpart A no-discharge ELG is not applicable to the Belle Facility process, the Department should grant a Fundamentally Different Factors ("FDF") Variance under 40 C.F.R. Section 125.30 to allow the Facility to continue to treat the combined stormwater and wastewater in accordance with its previous operating permit. Kingsford is making a timely and appropriate request for such a variance because it is a BPT limitation according to the Federal Register preamble for the ELG (at 41 Federal Register 20506, 20507) and because the public comment period has not yet closed for the

draft permit. *See* 40 C.F.R. § 122.21(m)(1)(A); *see also* 54 Fed. Reg. 246, 250 (Jan. 4, 1989) ("The existing NPDES regulation at § 122.21(m)(1) requires that a Fundamentally Different Factors (FDF) variance request be submitted by the close of the public comment period on the draft permit. The existing filing deadline will continue to be used for FDF variance requests from BPT effluent guidelines").

The 40 C.F.R. 454, Subpart A ELG for the char and charcoal briquets subcategory allows alternative effluent limitations through a FDF Variance where "factors relating to the discharger's facilities, equipment, processes or other factors related to the discharger are fundamentally different from the factors considered by EPA in development of the national limits." *See* 40 C.F.R. 454.12 *citing to* 40 C.F.R. 125.30(a). U.S. EPA's rationale for allowing FDF variances is:

> In establishing national limits, EPA takes into account all the information it can collect, develop and solicit regarding the factors listed in sections 304(b) and 304(g) of the Act. In some cases, however, data which could affect these national limits as they apply to a particular discharge may not be available or may not be considered during their development. As a result, it may be necessary on a case-by-case basis to adjust the national limits, and make them either more or less stringent as they apply to certain dischargers within an industrial category or subcategory. This will only be done if data specific to that discharger indicates it presents factors fundamentally different from those considered by EPA in developing the limit at issue. Any interested person believing that factors relating to a discharger's facilities, equipment, processes or other facilities related to the discharger are fundamentally different from the factors considered during development of the national limits may request a fundamentally different factors variance. . . 40 C.F.R. § 125.30(b).

Pursuant to 40 C.F.R. Section 125.31, a FDF Variance can be issued when (1) factors relating to the discharge controlled by the permit are fundamentally different from those considered by U.S. EPA in establishing the national limits; (2) the alternative effluent limitation or standard requested is no less stringent than justified by the fundamental difference; (3) the alternative effluent limitation or standard will ensure compliance with areawide waste treatment management plans or water quality standards under Clean Water Act § 208(e) and § 301(b)(1)(C) respectively; (4) compliance with the ELG would result in a removal cost "wholly out of proportion" to the removal cost considered during the development of the ELG." *See* 40 C.F.R. 125.31(a)-(b).

Among others, fundamentally different factors include: (1) the volume of the discharger's process wastewater and effluent discharge; (2) the age and configuration as they relate to the discharger's equipment or facilities, processes employed, process changes, and engineering aspects

of the application of control technology; and (3) cost of compliance with required control technology. 40 C.F.R. § 125.30(d).

As explained in Section II.A above, the Belle Facility clearly has fundamentally different factors than those considered by U.S. EPA in establishing the ELG for the char and charcoal briquet subcategory. In establishing the ELG, U.S. EPA only evaluated a kiln-based system for char manufacturing. However, the Belle Facility has a fundamentally different process for char manufacturing using a retort system. The retort system is fundamentally different from a kiln system in that it requires water for proper operation; water which also must be discharged periodically to maintain this proper operation. Additionally, since the retort system is a continuous feed system, the required engineering, configuration and necessary equipment is different from the batch process used in the traditional kiln-based system.

Had U.S. EPA been able to consider these factors, *e.g.* more sophisticated and fundamentally different operations that require water discharge for proper operation, in its rulemaking for 40 C.F.R. 454, Subpart A, U.S. EPA would have most likely promulgated treatment standards in a manner similar to the other processes covered by the ELG at 40 C.F.R. 454. In addition to the char and charcoal briquet subcategory, the ELG for the Gum and Wood Chemicals Manufacturing Point Source Category at 40 C.F.R. 454 also encompasses five other manufacturing sectors such as gum rosin, wood rosin, turpentine, etc. Each of the five other subcategories is described as having process wastewater discharge and, as a result, each of them has effluent limits for BOD, TSS, and pH, based on the practicable treatment technologies for those aqueous wastes. If U.S. EPA had surveyed a char and charcoal briquet facility that had likewise had wastewater discharge, such as the Belle Facility or one with a retort system, the Agency would have been obligated to set effluent limits for constituents based on practicable treatment technologies similar to the other subcategories under the ELG.

The Belle Facility additionally meets the other requirements for issuance of an FDF Variance. Using the alternative effluent limitation that is contained in the Belle Facility's prior NPDES permits would be no less stringent than justified by the fundamentally different factors, and ensures compliance with water quality standards. The Belle Facility has operated successfully since 1955 without any significant detriment to water quality. The Department's past renewal of the Missouri State Operating Permit is recognition that the Facility operation has operated within permit requirements and has protected the stream quality in Dry Fork Creek. In-stream data from outfall 006 indicate a consistently high water quality. Since the mid-1990s, the practice of controlled irrigation to allow pollutant removal through overland flow has provided an added level of effluent treatment that has maintained the water quality in Dry Fork and its tributary.

Further, compliance with the "no-discharge" ELG would result in a removal cost "wholly out of proportion" to the removal cost considered during the development of the ELG. In fact, the 40 C.F.R. 454, Subpart A ELG found that charcoal manufacturers would not be economically impacted by the ELG and would incur no costs in complying with the "no-discharge" limitation.

See 41 Fed. Reg. at 20509. However, requiring a "no-discharge" limitation in the Belle Facility's permit represents a sudden and significant change in precedence with respect to Kingsford's Missouri State Operating Permit. Kingsford's past investments of hundreds of thousands of dollars to configure the Facility to comply with the current permit will have been in vain. If issued, the permit will place an immediate and substantial burden of noncompliance upon Kingsford. The cost of complying with this requirement will be wholly out of proportion to the removal cost considered during development of the national limit guidelines, which assumed incorrectly that charcoal manufacturing does not discharge wastewater.

Accordingly, if the Department does not grant Kingsford's request for a case-by-case technology-based effluent limitation as requested above, Kingsford, in the alternative, requests that the Department issue an FDF Variance for the Belle Facility. If the FDF option is preferred by the Department, Kingsford requests an opportunity to discuss and submit a formal request for an FDF Variance. If, however, the Department continues to require a no-discharge permit for the Facility, Kingsford would be compelled to seek an appeal and a stay of the permit to avoid being in noncompliance. At the Facility, a 24-hour rain of even three inches will exceed the stormwater storage capacity, resulting in a discharge from Outfall 002, which would be illegal under a no-discharge limitation.

IV. Conclusion

Kingsford understands that the Department must work with U.S. EPA and the established national guidelines. However, the Department may not be fully aware of the manufacturing process that U.S. EPA evaluated in establishing the "no-discharge" ELG at 40 C.F.R. 454, Subpart A. Further, we feel that the Department has not fully considered the significance of this change to Kingsford and the consequences of issuing the draft permit, which could impact the viability of the Belle Facility. We would like to engage the Department in further dialogue on this issue and find a resolution that will allow Kingsford to continue operations while protecting water quality and meeting the requirements of U.S. EPA and the Department.

Again, I invite the Department staff to visit and tour the plant. Such a visit would, I believe help foster a better understanding of the limitations and challenges we would face in complying with the draft permit. To schedule a visit or address any questions or comments, please feel free to contact either myself or Greg Hanlin.

Very truly yours,

Steve Miller
Plant Manager

CC: *Mike Hefner*
Keith Forck
Mike Young
Greg Hanlin

Enclosures

- *EPA Development Document for Interim Final Effluent Limitations, Guidelines and Proposed New Source Performance Standards for the Gum and Wood Chemicals Manufacturing Point Source Category*

- *Federal Register, May 18, 1976*

- *Photos of a kiln facility and the Belle Facility from MDNR Resources Magazine, Spring 2000*

Appendix B

RPA Worksheets

Kingsford Manufacturing, Belle Missouri (MO-0000931)
Ammonia as N, Summer, Reasonable Potential Analysis (TSD, EPA/505/2-90-001, Section 3.3.2)

DATE	OUTFALL	CMAVG (mg/L)
4/18/2019	001	0.12
06/30/2017	001	0.17
09/30/2016	001	0.07
06/30/2016	001	0.12
09/30/2015	001	0.14
06/30/2015	001	0.3
09/30/2014	001	0.1
06/30/2014	001	0.16
09/30/2013	001	0.38
06/30/2013	001	0.07
09/30/2012	001	0.03
06/30/2012	001	0.1
09/30/2011	001	0.13
06/30/2011	001	0.01

OUTFALL 001

Number of Samples (n)	14
Maximum	0.38
Minimum	0.010
Mean	0.136
Standard Deviation	0.095
CV	0.702
$\sigma^2 = \ln(CV^2 + 1)$	0.401
σ	0.633
$\rho_n = (1 - CL)^{1/n}$	0.720 72% CL
Z_{99}	2.326
Z_{72}	0.583
C_{99}	3.569
C_{72}	1.184
C_{99}/C_{72}	3.015
Chronic RWC	1.1 mg/L
CCC	1.5 mg/L
Acute RWC	1.1 mg/L
CMC	12.1 mg/L

Average Flow	0.004	CFS
Design Flow	0.009	CFS

	Flow (cfs)	Dilution Factor
7Q10	0	---
MZ	0.0	1.0
ZID	0	1.0

*ZID cannot exceed 10x effluent design flow.
*MZ and ZID not allowed for 7Q10 flows less than 0.1 cfs

Receiving Water Mass Balance

$$C = \frac{(C_s * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)}$$

	MZ	ZID
C_s = upstream concentration (mg/L)	0	0
Q_s = upstream flow (cfs)	0	0
C_e = effluent concentration (mg/L)	1.1456	1.1456
Q_e = effluent flow (cfs)	0.0	0.0
C = downstream concentration (mg/L)	1.1456	1.1456

Kingsford Manufacturing, Belle Missouri (MO-0000931)
Ammonia as N, Winter, Reasonable Potential Analysis (TSD, EPA/505/2-90-001, Section 3.3.2)

DATE	OUTFALL	CMAVG (mg/L)
03/31/2017	001	0.09
12/31/2016	001	0.26
03/31/2016	001	0.3
12/31/2015	001	0.15
03/31/2015	001	0.06
12/31/2014	001	0.12
03/31/2014	001	0.13
12/31/2013	001	0.08
03/31/2013	001	0.6
12/31/2012	001	0.05
03/31/2012	001	0.01
12/31/2011	001	0.03
03/31/2011	001	0.11

OUTFALL 001

Number of Samples (n)	12
Maximum	0.60
Minimum	0.010
Mean	0.153
Standard Deviation	0.152
CV	0.993
$\sigma^2 = \ln(CV^2 + 1)$	0.686
σ	0.828
$\rho_n = (1 - CL)^{1/n}$	0.681 (68.1% CL)
Z_{99}	2.326
Z_{68}	0.471
C_{99}	4.873
C_{68}	1.048
C_{99}/C_{68}	4.650
Chronic RWC	2.79 mg/L
CCC	3.1 mg/L
Acute RWC	2.79 mg/L
CMC	12.1 mg/L

Average Flow	0.004	CFS
Design Flow	0.009	CFS

	Flow (cfs)	Dilution Factor
7Q10	0	---
MZ	0.0	1.0
ZID	0	1.0

*ZID cannot exceed 10x effluent design flow
*MZ and ZID not allowed for 7Q10 flows less than 0.1 cfs

Receiving Water Mass Balance

$$C = \frac{(C_s * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)}$$

	MZ	ZID
C_s = upstream concentration (mg/L)	0	0
Q_s = upstream flow (cfs)	0	0
C_e = effluent concentration (mg/L)	2.79	2.79
Q_e = effluent flow (cfs)	0.0	0.0
C = downstream concentration (mg/L)	2.79	2.79

Kingsford Manufacturing, Belle Missouri (MO-0000931)
Chloride + Sulfate, Reasonable Potential Analysis (TSD, EPA/505/2-90-001, Section 3.3.2)

DATE	OUTFALL	CMAVG (mg/L)
05/31/2017	002	90.55
04/30/2017	002	231.3
09/30/2016	002	110.85
08/31/2016	002	102.8
07/31/2016	002	180
12/31/2015	002	154
11/30/2015	002	185
07/31/2015	002	122
06/30/2015	002	152.5
07/31/2013	002	40.65
06/30/2013	002	42.85
05/31/2013	002	46.3
04/30/2013	002	55.8
03/31/2013	002	248
05/31/2011	002	156.25
03/31/2011	002	269

OUTFALL 002

Number of Samples (n)	16
Maximum	269.00
Minimum	40.650
Mean	136.741
Standard Deviation	71.104
CV	0.520
$\sigma^2 = \ln(CV^2 + 1)$	0.239
σ	0.489
$\rho_n = (1 - CL)^{1/n}$	0.750 (75% CL)
Z_{99}	2.326
Z_{75}	0.674
C_{99}	2.768
C_{95}	1.234
C_{99}/C_{95}	2.243
Chronic RWC	603 mg/L
CCC	1000 mg/L
Acute RWC	603 mg/L
CMC	1000 mg/L

Average Flow	0.09	CFS
Design Flow	0.45	CFS

	Flow (cfs)	Dilution Factor
7Q10	0	---
MZ	0.0	1.0
ZID	0	1.0

*ZID cannot exceed 10x effluent design flow
*MZ and ZID not allowed for 7Q10 flows less than 0.1 cfs

Receiving Water Mass Balance

$$C = \frac{(C_s * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)}$$

	MZ	ZID
C_s = upstream concentration (mg/L)	0	0
Q_s = upstream flow (cfs)	0	0
C_e = effluent concentration (mg/L)	603	603
Q_e = effluent flow (cfs)	0.1	0.1
C = downstream concentration (mg/L)	603	603

Kingsford Manufacturing, Belle Missouri (MO-0000931)
Phenolics, Reasonable Potential Analysis (TSD, EPA/505/2-90-001, Section 3.3.2)

DATE	OUTFALL	CMAVG (mg/L)
05/31/2017	002	0.0001
04/30/2017	002	0.00019
09/30/2016	002	0.00005
08/31/2016	002	0.00005
07/31/2016	002	0.00005
12/31/2015	002	0.00005
11/30/2015	002	0.00005
07/31/2015	002	0.00005
06/30/2015	002	0.00005
07/31/2013	002	0.000055
06/30/2013	002	0.000078
05/31/2013	002	0.000103
04/30/2013	002	0.000089
03/31/2013	002	0.00031
05/31/2011	002	0.00005
03/31/2011	002	0.28

OUTFALL 002

Number of Samples (n)	16
Maximum	0.00
Minimum	0.000
Mean	0.018
Standard Deviation	0.068
CV	3.854
$\sigma^2 = \ln(CV^2 + 1)$	2.763
σ	1.662
$\rho_n = (1 - CL)^{1/n}$	0.750 75% CL
Z_{99}	2.326
Z_{75}	0.674
C_{99}	12.000
C_{75}	0.771
C_{99}/C_{75}	15.569
Chronic RWC	4.8 ug/L
CCC	2560 ug/L
Acute RWC	4.8 ug/L
CMC	5293 ug/L

Average Flow	0.09	CFS
Design Flow	0.45	CFS

	Flow (cfs)	Dilution Factor
7Q10	0	---
MZ	0.0	1.0
ZID	0	1.0

*ZID cannot exceed 10x effluent design flow
*MZ and ZID not allowed for 7Q10 flows less than 0.1 cfs

Receiving Water Mass Balance

$$C = \frac{(C_s * Q_s) + (C_e * Q_e)}{(Q_e + Q_s)}$$

	MZ	ZID
C_s = upstream concentration (mg/L)	0	0
Q_s = upstream flow (cfs)	0	0
C_e = effluent concentration (mg/L)	0.0048	0.0048
Q_e = effluent flow (cfs)	0.1	0.1
C = downstream concentration (mg/L)	0.0048	0.0048

AP32954

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JUN 27 2019
Water Protection Program

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

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 6-27-19	FEE SUBMITTED
JET PAY CONFIRMATION NUMBER	

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

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

1. REASON FOR APPLICATION:

☑ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – 0000931, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

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

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

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

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Kingsford Manufacturing Company		(573) 859-3316	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
21200 Maries Rd. 314	Belle	MO	65013

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
The Clorox Company		(510) 271-7000	
EMAIL ADDRESS			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
P.O. Box 24305	Oakland	CA	94623

4. CONTINUING AUTHORITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Kingsford Manufacturing Company		(573) 859-3316	
EMAIL ADDRESS			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
21200 Maries Rd. 314	Belle	MO	65013

5. OPERATOR CERTIFICATION

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Trevor Hempel	Engineering Manager	(573) 859-5541
E-MAIL ADDRESS		
trevor.hempel@clorox.com		

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

NAME			
Bobby Eckert			
ADDRESS	CITY	STATE	ZIP CODE
20851 Maries Rd. 314	Belle	MO	65013

8. ADDITIONAL FACILITY INFORMATION

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

001 NW ¼ SW ¼ Sec 8 T 40N R 7W Maries _____ County
UTM Coordinates Easting (X): 610794 Northing (Y): 4230923

002 NW ¼ SW ¼ Sec 8 T 40N R 7W Maries _____ County
UTM Coordinates Easting (X): 610609 Northing (Y): 4231044

003 NW ¼ SW ¼ Sec 8 T 40N R 7W Maries _____ County
UTM Coordinates Easting (X): 610803 Northing (Y): 4230915

004 _____ ¼ _____ ¼ Sec _____ T _____ R _____ _____ County
UTM Coordinates Easting (X): _____ Northing (Y): _____

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

001 Primary SIC 4952 and NAICS 221320 002 SIC 2861 and NAICS 325194
003 SIC 2861 and NAICS 325194 SIC _____ and NAICS _____

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

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

B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A) : YES ☐ NO ☑
If yes, complete Forms C and D. See supplementary report Section 4.0 for additional information.

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

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

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

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

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

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

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

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

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

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

11. FEES

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

12. CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Brian Brockway, Plant Manager	573-859-5503
SIGNATURE	DATE SIGNED
Brian Brockway	6-25-2019

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

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT

1. Check which option is applicable. **Do not check more than one item.** Nondomestic permit refers to permits issued by the Department of Natural Resources' Water Protection Program for all **nondomestic** wastewater treatment facilities, including all industry, stormwater, and Class IA Concentrated Animal Feeding Operations (CAFO). **This includes all nondomestic wastewater treatment facilities that incorporate domestic wastewater into the operating permit.**

   For some new or modified permits, a construction permit is required prior to beginning construction at the facility. For other permits, an exemption is provided from construction permit requirements. Please review the requirements at http://dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm. If the facility is for wastewater treatment and is designed for greater than 22,500 gallons per day, the engineering report must be submitted and approved prior to submittal of the application, fee, plans, and specifications. A summary of design data must be submitted with the engineering plans and specifications.

   For new wastewater facilities, some wastewater permit modifications, and some permit renewals with proposed increase in design wastewater flow, an antidegradation review may be required. Please visit https://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm for more information

2. Facility - Provide the name by which this facility is known locally. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Also include the street address or location of the facility. If the facility lacks a street name or route number, give the names of the closest intersection, highway, county road, etc.

3. Owner - Provide the legal name and address of owner or company.

4. Continuing Authority – A continuing authority is a company, business, entity, or person(s) operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. A continuing authority's name must be listed **exactly** as it appears on the Missouri Secretary of State's (SoS's) webpage: https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0, unless the continuing authority is an individual(s), government, or otherwise not required to register with the SoS.

5. Operator - Provide the name, certificate number, mailing address and telephone number of the person operating the facility, if required by regulation (10 CSR 20-9.020(2)). Most industrial facilities will not be required to have a certified wastewater operator.

6. Provide the name, title, and work telephone number of a person who is thoroughly familiar with the operation of the facility, with the facts reported in this application, and who can be contacted by the department, if necessary. This person will need to be available to respond to emails which will include pre-public notice drafts of permits.

7. Please provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. Also, please indicate the location on the map. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner that the discharge flows to after leaving the right-of-way. For no discharge facilities, provide this information for the location where discharge would flow if there was one. For land application sites, include the owners of the land application sites and all adjacent landowners.

8.1 An outfall is the point at which wastewater or stormwater is discharged. Outfalls should be given in terms of the legal description of the facility. Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, please use a mapping system to approximate the coordinates.

8.2 List only your primary Standard Industrial Classification (SIC), and North American Industry Classification System (NAICS) code for each outfall. The SIC system was devised by the U.S. Office of Management and Budget to cover all economic activities. To find the correct SIC code, an applicant may check his or her unemployment insurance forms or contact the Missouri Division of Employment Security, 573-751-3215. The primary SIC code is that of the operation that generates the most revenue. If this information is not available, the number of employees or, secondly, production rate may be used to determine your SIC code. Additional information for Standard Industrial Codes can be found at www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System at www.census.gov/naics or contact the appropriate Department of Natural Resources regional office.

INSTRUCTIONS FOR COMPLETING FORM A - APPLICATION FOR NONDOMESTIC PERMIT (CONTINUED)

9. If you answer yes to A, B, C, D, or E, then you must complete and file the supplementary form(s) indicated. 40 CFR 122.21(f) and (g) requires the facility to submit the information requested herein. For 9.E., please include all permits or approvals, including construction, issued under the Hazardous Waste Management Program (RCRA), the Safe Drinking Water Act, Clean Air Act, or any other permits issued under the Clean Water Act.

   A U.S. Geological Survey 1" = 2,000' scale map must be submitted with the permit application showing all outfalls, the receiving stream and the location of the downstream property owners. This type of map can be obtained from the Missouri Department of Natural Resources' Geological Survey in Rolla at 573-368-2100 or various online mapping applications.

10. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at http://dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package.

    Waivers from electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:
    A. Members of religious communities that choose not to use certain technologies or
    B. Permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: http://www.broadbandmap.gov/. Please contact the department if you need assistance.

11. Please visit https://dnr.mo.gov/pubs/pub2564.htm for permit fees. This form must be submitted with the application fee if requesting a new permit, permit modification, or permit transfer.

    Fee schedules are listed in regulation at 10 CSR 20-6.011, https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf.

    Incomplete permit applications and/or related engineering documents will be returned by the department if they are not completed in the time frame established in a comment letter from the department to the owner. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

12. Certification/Signature - All applications must be signed as follows and the signature must be **original**:
    A. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
    B. For a partnership or sole proprietorship, by a general partner or the proprietor.
    C. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

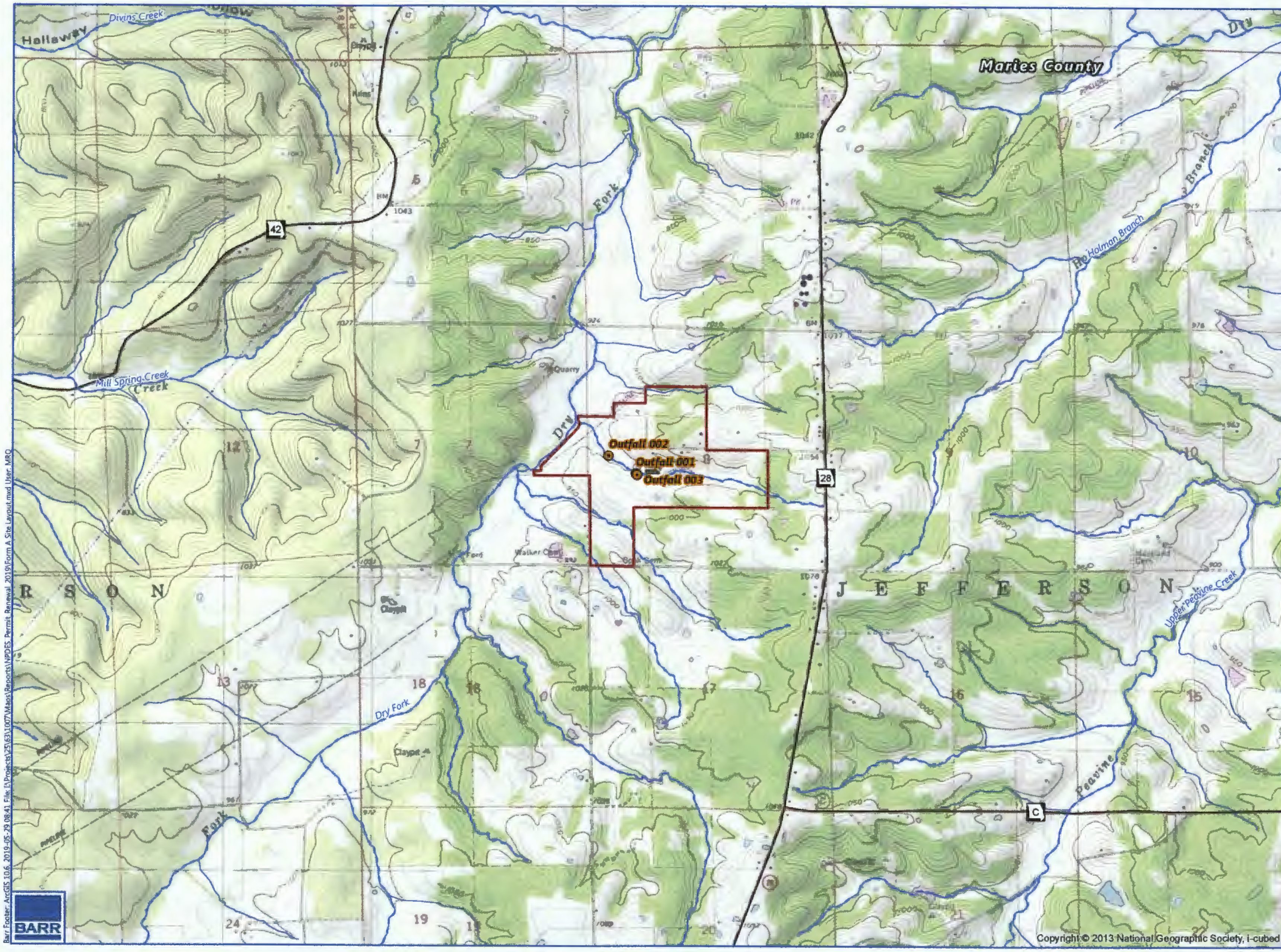
MAIL COMPLETED FORM AND FEES TO:
Missouri Department Of Natural Resources Water Protection Program Water Pollution Control Branch ATTN: Operating Permits Section P.O. BOX 176 JEFFERSON CITY, MO 65102-0176

If there are any questions concerning this form, contact the Department of Natural Resources' Water Protection Program, Operating Permits Section at 800-361-4827 or 573-522-4502.

Form A Supplement

9.E. List of Permits

Air Permit – Operating Permit: OP2017-008
Installation ID: 125-0001



SITE LAYOUT
NPDES Permit Renewal
Kingsford Manufacturing Company

FORM A

BARR

RECEIVED
JUN 27 2019
Water Protection Program

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 6-27-19	FEE SUBMITTED
JETPAY CONFIRMATION NUMBER	

READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
(Include completed antidegradation review or request for antidegradation review, see instructions)

☐ A new site-specific operating permit formerly general permit #MOG _____

☑ A site-specific operating permit renewal: Permit #MO- 0000931 Expiration Date 12/31/2019

☐ A site-specific operating permit modification: Permit #MO- _____ Reason: _____

☐ General permit (NON-POTWs) (MOGD –discharging < 50,000 GPD *or* MOG823 – Land Application of Domestic Wastewater):
Permit #MO- _____ Expiration Date _____

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? ☑ YES ☐ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Kingsford Manufacturing Company		(573) 859-3316	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
21200 Maries Rd. 314	Belle	MO	65013

2.1 Legal description: Sec. 8 , T 40N , R 7W County Maries

2.2 UTM Coordinates Easting (X): 610874 Northing (Y): 4231013
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Tributary to Dry Fork Creek

2.4 Number of outfalls: 3 Wastewater outfalls: 2 Stormwater outfalls: 1 Instream monitoring sites: 0

3. OWNER: The owner of the regulated activity/discharge being applied for and is not necessarily the owner of the real property on which the activity or discharge is occurring.

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
The Clorox Company		(510) 271-7000	
ADDRESS	CITY	STATE	ZIP CODE
P.O. Box 24305	Oakland	CA	94623

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

3.2 Are you a publicly owned treatment works? ☐ YES ☑ NO
If yes, please attach the Financial Questionnaire. See: https://dnr.mo.gov/forms/780-2511-f.pdf

3.3 Are you a privately owned treatment works? ☑ YES ☐ NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? ☐ YES ☑ NO

4. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Kingsford Manufacturing Company		(573) 859-3316	
ADDRESS	CITY	STATE	ZIP CODE
21200 Maries Rd. 314	Belle	MO	65013

If the continuing authority is different than the owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME	TITLE	CERTIFICATE NUMBER
EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE

6. FACILITY CONTACT

NAME		TITLE	
Trevor Hempel		Engineering Manager	
EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE	
trevor.hempel@clorox.com		(573) 859-5541	
ADDRESS	CITY	STATE	ZIP CODE
21200 Maries Rd. 314	Belle	MO	65013

7. DESCRIPTION OF FACILITY

7.1 Process Flow Diagram or Schematic: Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram.
Attach sheets as necessary.

Attached is a manufacturer's diagram for the packaged extended aeration plant used on site, which includes a description of the treatment processes used. Effluent from the packaged plant enters a baffled contact chamber and is then discharged through an ultraviolet (UV) disinfection unit. A diagram of the UV disinfection unit in relation to the packaged plan is also included as an attachment. The only source of influent is sanitary wastewater associated with the site office and plant. Effluent from the treatment plant is discharged through Outfall 001 to the unnamed tributary to Dry Fork Creek. Samples associated with the site operating permit are collected after the effluent exists the UV disinfection unit and before the effluent enters the receiving water. There are no process changes during dry or wet weather conditions associated with the treatment plant.

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.
Please see the following website:
https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce

8. ADDITIONAL FACILITY INFORMATION

8.1 Facility SIC code: 2861 Discharge SIC code: 4952

8.2 Number of people presently connected or population equivalent (P.E.) 60 Design P.E. 60

8.3 Connections to the facility:

Number of units presently connected:

Residential: _____ Commercial: _____ Industrial: 1

8.4 Design flow: 6000 gal/day | Actual flow: 1700 gpd avg.

8.5 Will discharge be continuous through the year? ☑ Yes ☐ No

Discharge will occur during the following months: All

How many days of the week will discharge occur? 7

8.6 Is industrial wastewater discharged to the facility? ☐ Yes ☑ No

If yes, attach a list of the industries that discharge to your facility

8.7 Does the facility accept or process leachate from landfills? ☐ Yes ☑ No

8.8 Is wastewater land applied? ☐ Yes ☑ No

If yes, attach Form I. See: https://dnr.mo.gov/forms/780-1686-f.pdf

8.9 Does the facility discharge to a losing stream or sinkhole? ☐ Yes ☑ No

8.10 Has a wasteload allocation study been completed for this facility? ☐ Yes ☑ No

9. LABORATORY CONTROL INFORMATION

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant. ☑ Yes ☐ No

Push-button or visual methods for simple test such as pH, settlable solids. ☐ Yes ☑ No

Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. ☐ Yes ☑ No

More advanced determinations such as BOD seeding procedures, fecal coliform/*E. coli*, nutrients (including Ammonia), Oil & Grease, \ total oils, phenols, etc. ☐ Yes ☑ No

Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph. ☐ Yes ☑ No

10. COLLECTION SYSTEM

10.1 Are there any municipal satellite collection systems connected to this facility? ☐ Yes ☑ No

If yes, please list all connected to this facility, contact phone number and length of each collection system

FACILITY NAME	CONTACT PHONE NUMBER	LENGTH OF SYSTEM (FEET OR MILES)

10.2 Length of pipe in the sewer collection system? (If available, include totals from satellite collection systems)

2100 Feet, or _____ Miles (either unit is appropriate)

10.3 Does significant infiltration occur in the collection system? ☐ Yes ☑ No

If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

11. BYPASSING

Does any bypassing occur in the collection system or at the treatment facility? ☐ Yes ☑ No

If yes, explain:

12. SLUDGE HANDLING, USE AND DISPOSAL

12.1 Is the sludge a hazardous waste as defined by 10 CSR 25? ☐ Yes ☑ No

12.2 Sludge production, including sludge received from others: 0.61 Design dry tons/year .396 Actual dry tons/year

12.3 Capacity of sludge holding structures:
Sludge storage provided: 378 cubic feet; 180+ days of storage; 3.0 average percent solids of sludge;
☐ No sludge storage is provided. ☐ Sludge is stored in lagoon.

12.4 Type of Storage:
☑ Holding tank ☐ Building
☐ Basin ☐ Lagoon
☐ Concrete Pad ☐ Other (Describe) _____

12.5 Sludge Treatment:
☐ Anaerobic Digester ☐ Lagoon ☐ Composting
☑ Storage Tank ☐ Aerobic Digester ☐ Other (Attach description)
☐ Lime Stabilization ☐ Air or Heat Drying

12.6 Sludge Use or Disposal:
☐ Land Application ☐ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
☑ Contract Hauler ☐ Hauled to Another treatment facility
☐ Incineration ☐ Sludge Retained in Wastewater treatment lagoon
☐ Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:
☐ By applicant ☑ By others (complete below)

NAME	EMAIL ADDRESS		
Central Missouri Septic Services, Inc.			
ADDRESS	CITY	STATE	ZIP CODE
9267 Highway AN	Rosebud	MO	63091
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.	
Alex Dwyer	(573) 764-3407	MO- G821045	

12.8 Sludge use or disposal facility
☐ By applicant ☑ By others (Complete below.)

NAME	EMAIL ADDRESS		
Central Missouri Septic Services, Inc.			
ADDRESS	CITY	STATE	ZIP CODE
9267 Highway AN	Rosebud	MO	63091
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.	
Alex Dwyer	(573) 764-3407	MO- G821045	

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
☑ Yes ☐ No (Explain)

ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally-consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please complete the eDMR Registration by clicking on the following link: https://dnr.mo.gov/forms/780-2204-f.pdf.

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

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

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

14. JETPAY

Permit fees may be payed online by credit card or eCheck through a system called JetPay. Use the URL provided to access JetPay and make an online payment.

New Site Specific Permit: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591/
Construction Permits: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/592/
Modification Fee: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596/
New General Domestic WW: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/772/

15. CERTIFICATION

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

NAME (TYPE OR PRINT)	OFFICIAL TITLE	TELEPHONE NUMBER WITH AREA CODE
Brian Brockway	Plant Manager	(573) 859-5503
SIGNATURE		DATE SIGNED
Brian Brockway		6-25-2019

MO 780-1512 (02-19)

INSTRUCTIONS FOR COMPLETING FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY
(Facilities over 100,000 gallons per day of domestic waste must use FORM B2)
(Facilities that receive wastes other than domestic contact the department)

1. Check the appropriate box. **Do not check more than one item.** Operating permit refers to a permit issued by the Department of Natural Resources' Water Protection Program. If an Antidegradation Review has not been conducted, submit the application located at the following link to the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102: dnr.mo.gov/forms/780-1893-f.pdf.

1.1 **Fees Information:**

DOMESTIC OPERATING PERMIT FEES – PRIVATE

Annual operating permit fees are based on flow.

Annual fee/Design flow	Annual fee/Design flow	Annual fee/Design flow
$150.....<5,000 gpd	$1,000.....15,000-24,999 gpd	$4,000.....100,000-249,999 gpd
$300.....5,000-9,999 gpd	$1,500.....25,000-29,999 gpd	$5,000.....≥250,000 gpd
$600.....10,000-14,999 gpd	$3,000.....30,000-99,999 gpd	

New domestic wastewater treatment facilities must submit the annual fee with the original application.

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of two percent per month are charged and added to outstanding annual fees.

PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (city, public sewer district, public water district, or other publicly owned treatment works). Annual fee is based on number of service connections. Fees listings are found in 10 CSR 20-6.011 which is available at http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. New public sewer system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

a. Publicly Owned Treatment Works (POTWs) - $200 each.
b. Non-POTWs – $100 each for a minor modification (name changes, address changes, other non-substantive changes) or a fee equal to 25% of the facility's annual operating fee for a major modification.

2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.

2.1 Self-explanatory

2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce.

2.3-2.4 Self-explanatory

3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner. The owner identified in this section and subsequently reflected on the certificate page of the operating permit, is the owner of the regulated activity/discharge being applied for and is not necessarily the owner of the real property on which the activity or discharge is occurring.

Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice.

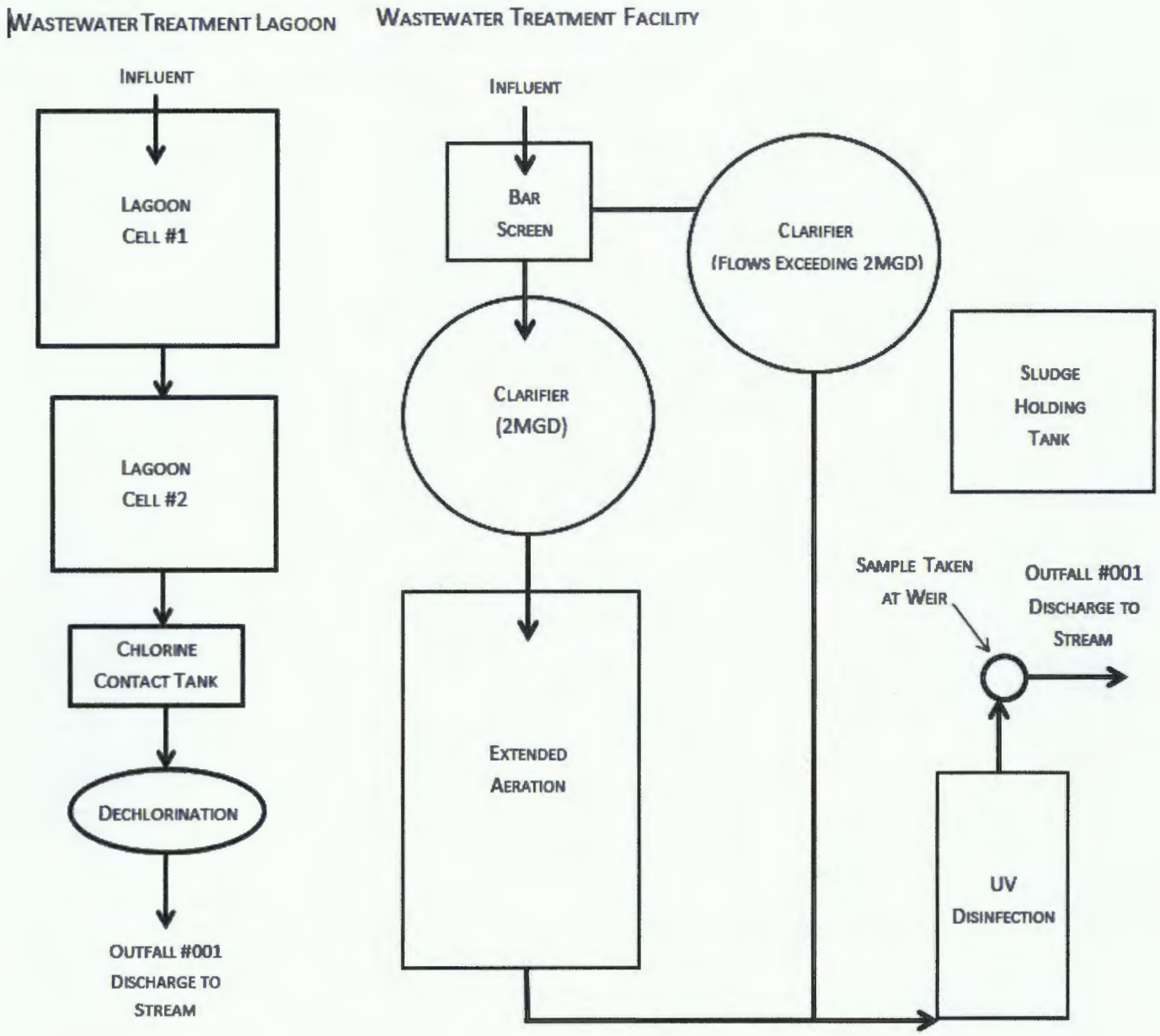
3.2-3.4 Self-explanatory. The Financial Questionnaire is available at: https://dnr.mo.gov/forms/780-2511-f.pdf

4. Continuing Authority - A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf . If the continuing authority is not an individual(s), government, or otherwise required to register with the Missouri Secretary of State (SoS), then the business name must be listed exactly as it appears on the SoS's webpage: https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0

5. Operator – Provide the name, certificate number, title, mailing address, primary phone number, and e-mail address of the operator of the facility.

6. Provide the name, title, mailing address, primary phone number, and e-mail address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.

7.1 **Process Flow Diagram Examples**



7.2 A topographic map is available on the Web at https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=1d81212e0854478ca0dae87c33c8c5ce or from the Department of Natural Resources' Geological Survey Division in Rolla at 573-368-2125.

8.1 For Standard Industrial Codes visit www.osha.gov/pls/imis/sicsearch.html or contact the Department of Natural Resources' Water Protection Program. For example, a family style restaurant has a Facility SIC code of 5812.

8.2-8.7 Self-explanatory.

8.8 If wastewater is land applied submit for Form I: www.dnr.mo.gov/forms/780-1686-f.pdf.

8.9-8.10 Self-explanatory

INSTRUCTIONS FOR COMPLETING FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY (continued)

9. Self-explanatory.

10.1 Self-explanatory.

10.2 Self-explanatory

10.3 If Inflow and Infiltration (I&I) is a problem at the facility, list possible actions to be taken to repair the collection and treatment facility.

11. Include overflows of combined sewers and lift stations or bypassing of the wastewater treatment facility. Provide a detailed description of the circumstances that sewage bypassing occurs and the frequency of occurrence.

12. A copy of 10 CSR 25 is available on the Web at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25.

12.1-12.8 Self-explanatory.

12.9 Refer to University of Missouri Extension Environmental Quality publications about biosolids (WQ420-WQ426). The documents are available at extension.missouri.edu/main/DisplayCategory.aspx?C=74. In addition, the federal sludge regulations are available through the U.S. Government Printing Office at https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR.

13. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at https://dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package. Waivers to electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:

   a. members of religious communities that choose not to use certain technologies or
   b. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: https://broadbandmap.fcc.gov/#/. Please contact the Department if you need assistance.

14. JETPAY

Applicants can pay fees online by credit card or eCheck through a system called JetPay.

   a. Per Section 37.001, RSMo, a transaction fee will be included. The transaction fee is paid to the third party vendor JetPay, not the Department of Natural Resources.
   b. Be sure to select the correct fee type and corresponding URL to ensure your payment is applied appropriately. If you are unsure what type of fee to pay, please contact the Water Protection Program's Budget, Fees, and Grants Management Unit by phone at (573) 522-1485 for assistance.
   c. Upon successful completion of your payment, JetPay provides a payment confirmation. Submit this form with a copy of the payment confirmation if requesting a new permit or a permit modification. For permit renewals of active permits, the Department will invoice fees annually in a separate request.
   d. If you are unable to make your payment online, but want to pay with credit card, you may email your name, phone number, and invoice number, if applicable, to **WPPFees@dnr.mo.gov**. The Budget, Fees, and Grants Management Unit will contact you to assist with the credit card payment. **Please do not include your credit card information in the email.**
   e. Applicants can find fee rates in 10 CSR 20-6.011 (https://dnr.mo.gov/pubs/pub2564.htm).

15. CERTIFICATION

Signature - All applications must be signed as follows and the signatures must be **original**:

   a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
   b. For a partnership or sole proprietorship, by a general partner or the proprietor.
   c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

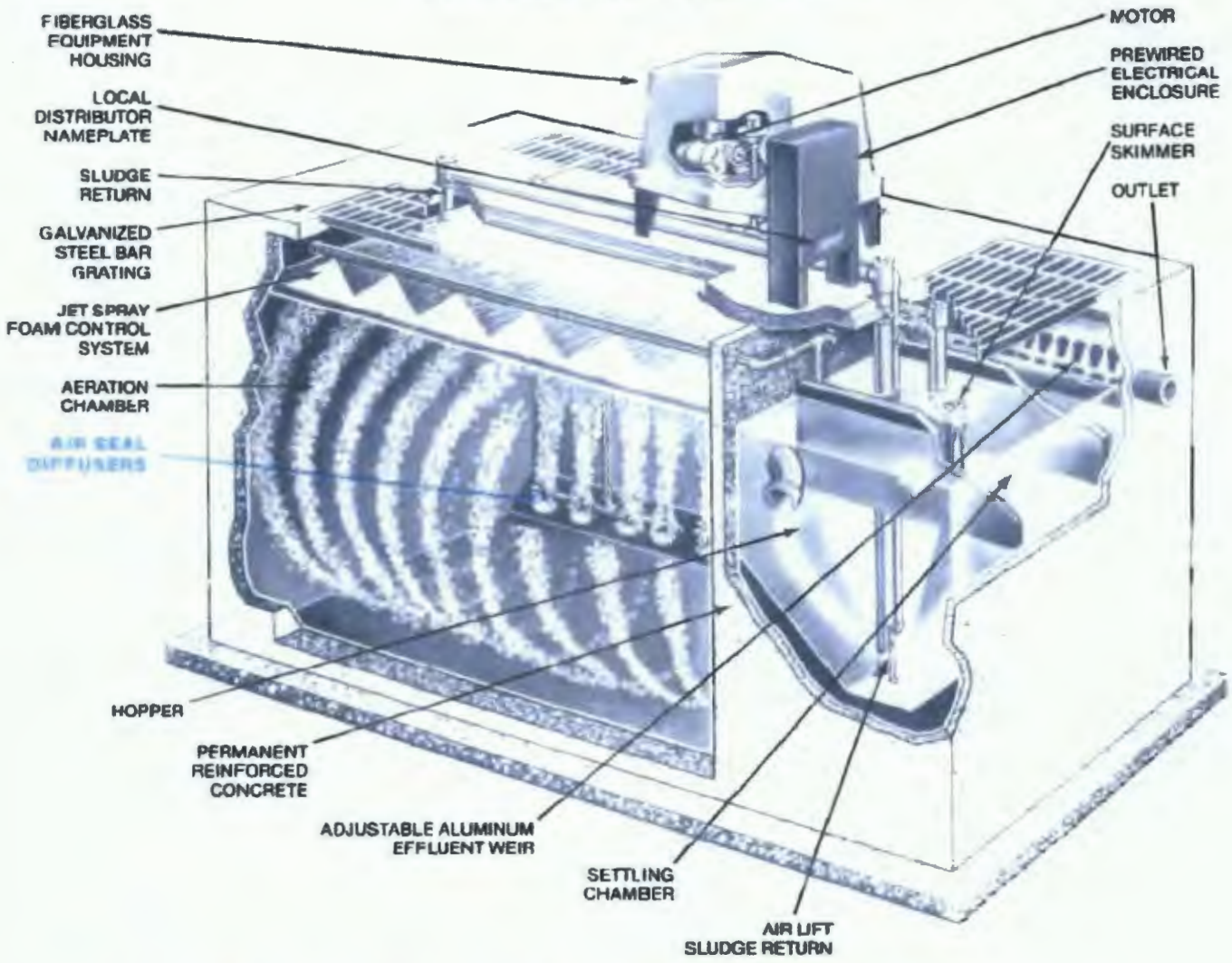
Submittal of an incomplete application may result in the application being returned.

This completed form and any attachments along with the applicable permit fees, should be submitted to:

Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102

Map of regional offices with addresses and phone numbers are available on the Web at https://dnr.mo.gov/regions/. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-522-4502.

JET PLANT FEATURES



POLLUTION CONTROL BEYOND SEWER LINES

Package Wastewater Treatment Plants solve wastewater problems. They make it possible for motels and service stations to be built along interstate highways far from towns . . . subdivisions to be planned in scenic areas miles beyond sewer lines . . . factories to be located on outlying sites.

JET's Package Plants operate on the extended aeration principle, treating wastewater by a biological process called aerobic digestion. In this process, microscopic organisms use oxygen to "digest" wastewater and transform it into clear odorless liquid.

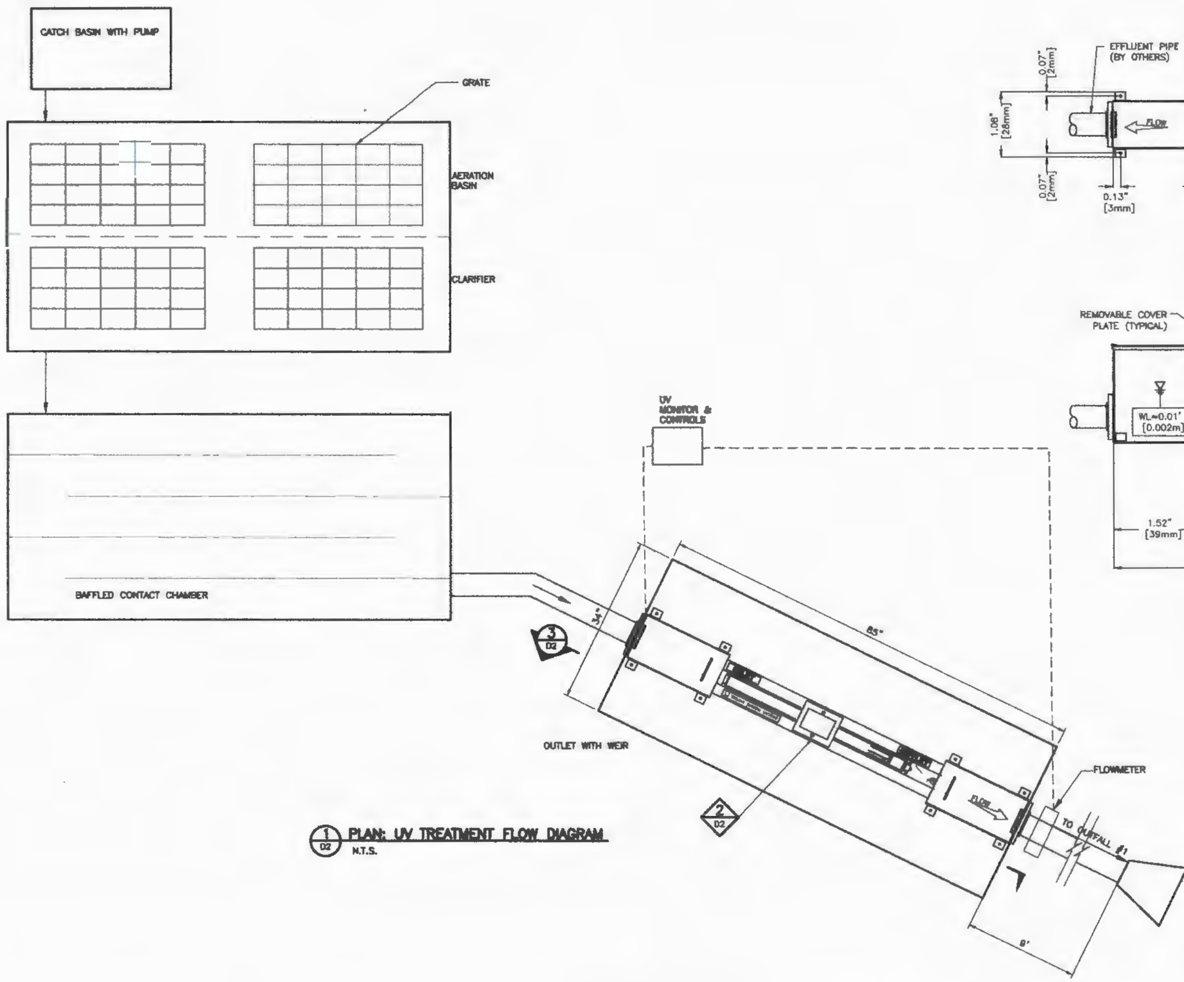
JET THREE-STAGE TREATMENT PROCESS

Pre-Treatment. In a JET Plant, large objects in the wastewater are caught by pre-treatment devices such as bar screens, trash traps, or comminutors (wastewater grinders) and broken down before being allowed to pass into the aeration chamber. Untreatable material like plastic or metal is kept out completely.

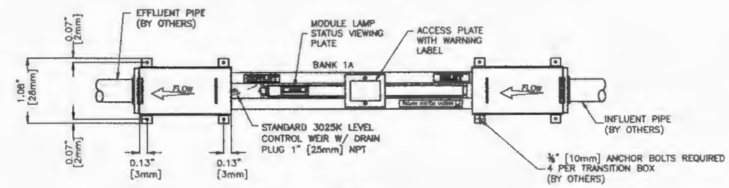
Aeration. After pre-treatment, the wastewater flows into an aeration tank where it is mixed with air. Air Diffusers at the bottom of the aeration tank bubble in large amounts of air for two purposes — to meet the oxygen demand of the aerobic digestion process and to mix the aeration tank contents, insuring complete treatment. In the aeration tank, the pre-treated wastewater is held for 24 hours while being transformed into a clear odorless liquid.

Settling. From the aeration tank the treated liquid flows into a settling tank that holds the liquid completely still. Here any small particles in suspension settle to the bottom and are returned to the aeration tank for further treatment.

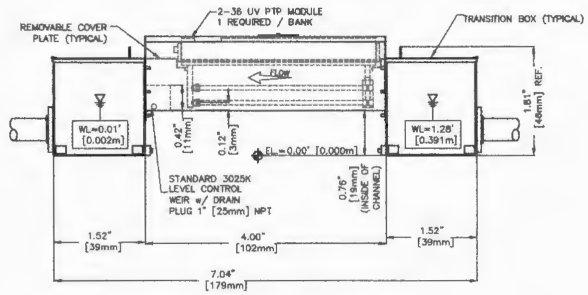
This settling process in the final tank of a JET Plant leaves a clear, highly treated water at the top. Only this highly treated liquid (called "effluent") leaves the plant and returns to the environment.



1 D2 PLAN: UV TREATMENT FLOW DIAGRAM
N.T.S.



2 D2 DETAIL: OUTLET
N.T.S.



3 D2 SECTION: DETAIL OF OUTLET
N.T.S.

NOTE:
1. UV MONITOR MUST BE WITHIN 15' OF CHANNEL.

PRELIMINARY DRAFT

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

RELEASED TO/FOR	A	B	C	0	1	2	3
	DATE RELEASED						

BARR
Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277
Project Office: BARR ENGINEERING CO. 1001 DIAMOND RIDGE SUITE 1100 JEFFERSON CITY, MO 65109 Ph: 1-888-324-3833 Fax: (573) 638-5001 www.barr.com

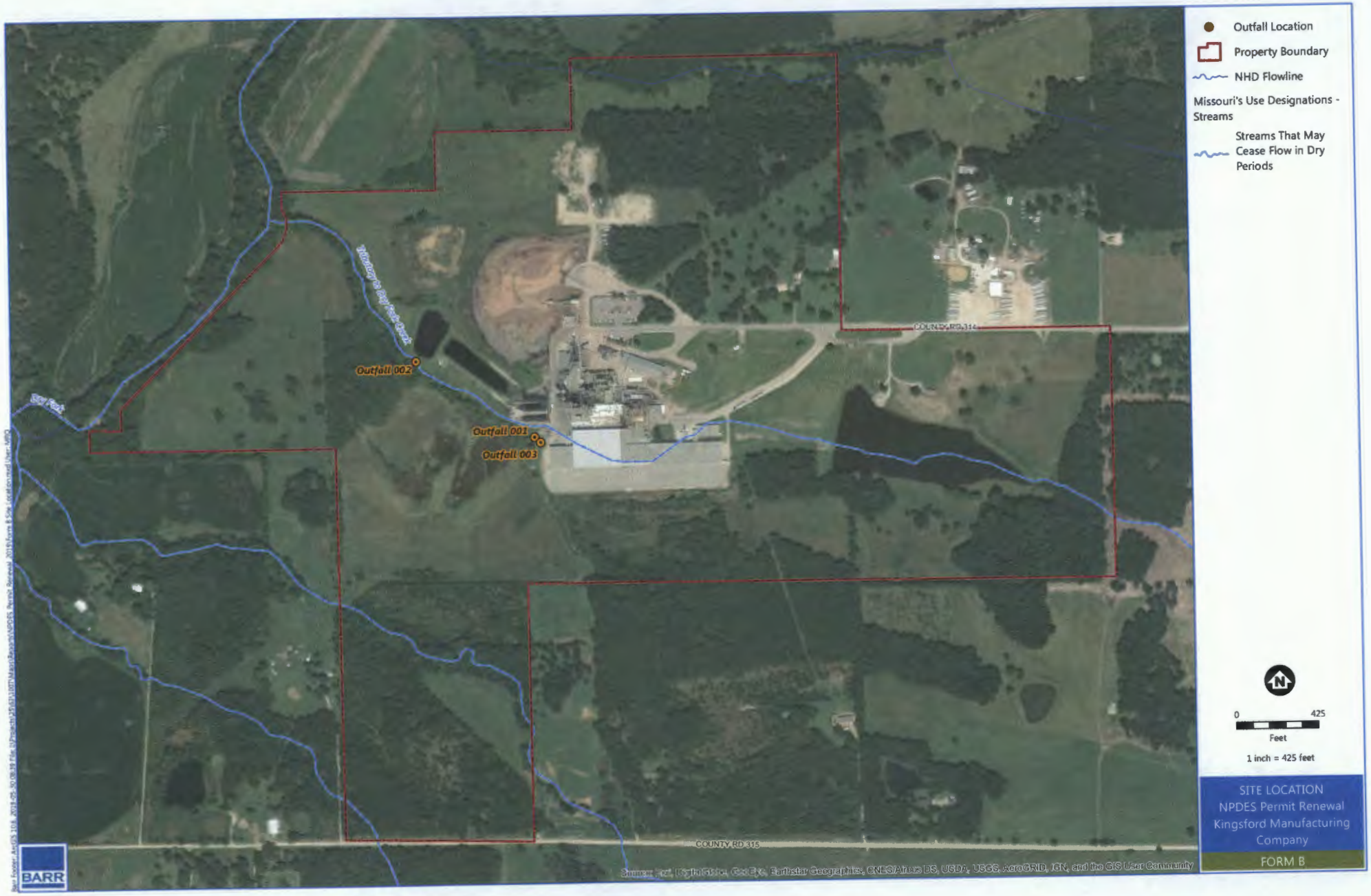
Scale	AS SHOWN
Date	7/30/11
Drawn	AAB
Checked	HMB
Designed	HMB
Approved	HMB

UV TREATMENT
FLOW DIAGRAM

DISINFECTION TREATMENT
ALTERNATIVES

BARR PROJECT No. 25/63-1003
CLIENT PROJECT No.
DWG. No. D-2
REV. No.

CADD USER: Heather M. Brefeldt FILE: P:\JEFF CITY\25 MO\63\25631003 KINGSFORD WATER PERMIT REVIEW\WORKFILES\TSS TREATMENT STUDY\CROSS SECTION D2-DETAILS.DWG PLOT SCALE: 1:2 PLOT DATE: 8/12/2011 4:16 PM


Outfall Location
Property Boundary
NHD Flowline
Missouri's Use Designations - Streams
Streams That May Cease Flow in Dry Periods
Outfall 002
Outfall 001
Outfall 003
COUNTY RD 314
COUNTY RD 315
Big Fork
0
425
Feet
1 inch = 425 feet
SITE LOCATION
NPDES Permit Renewal
Kingsford Manufacturing Company
FORM B
BARR
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, AND STORMWATER

GENERAL INFORMATION (PLEASE SEE INSTRUCTIONS)

1.0 NAME OF FACILITY

Kingsford Manufacturing Company

1.1 THIS FACILITY IS OPERATING UNDER MISSOURI STATE OPERATING PERMIT (MSOP) NUMBER:

MO-0000931

1.2 IS THIS A NEW FACILITY? PROVIDE CONSTRUCTION PERMIT (CP) NUMBER IF APPLICABLE.

1.3 Describe the nature of the business, in detail. Identify the goods and services provided by the business. Include descriptions of all raw, intermediate, final products, byproducts, or waste products used in the production or manufacturing process, stored outdoors, loaded or transferred and any other pertinent information for potential sources of wastewater or stormwater discharges.

The Kingsford Manufacturing facility manufactures charcoal briquets.

FLOWS, TYPE, AND FREQUENCY

2.0 Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average and maximum flows between intakes, operations, treatment units, evaporation, public sewers, and outfalls. If a water balance cannot by determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

2.1 For each outfall (1) below, provide: (2) a description of all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, stormwater runoff, and any other process or non-process wastewater, (3) the average flow and maximum flow (put max in parentheses) contributed by each operation and the sum of those operations, (4) the treatment received by the wastewater, and (5) the treatment type code. Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW; INCLUDE ALL PROCESSES AND SUB PROCESSES AT EACH OUTFALL	3. AVERAGE FLOW AND (MAXIMUM FLOW), INCLUDE UNITS.	4. TREATMENT DESCRIPTION	5. TREATMENT CODES FROM TABLE A
001	Sanitary waste	2,200 (6,000) gpd	Sanitary WWTP	3-A
002	Plant wash water and fire fighting	0.03 (0.4) MGD	Primary, secondary, and	1-U, 4-C
			tertiary sedimentation basins.	
002	Stormwater runoff	Rainfall dependent	Basins receive all washdown	1-U, 4-C
		0.0571 (1.6) MGD	& runoff water, treated effluent	
002	Boiler Blowdown	4,000 gpd	reused in plant when suitable.	1-U, 4-C
002	Retort Seals	2,800 gpd	Excess water land applied.	1-U, 4-C
003	Stormwater runoff	Rainfall dependent	None	4-A
		(13.3 MGD)		

Attach additional pages if necessary.

2.2 INTERMITTENT DISCHARGES

Except for stormwater runoff, leaks, or spills, are any of the discharges described in items 2.0 or 2.1 intermittent or seasonal?

☐ Yes *(complete the following table)* ☑ No *(go to section 2.3)*

1. OUTFALL NUMBER	2. OPERATION(S) CONTRIBUTING FLOW	3. FREQUENCY		4. FLOW				C. DURATION *(in days)*
				A. FLOW RATE *(in mgd)*		B. TOTAL VOLUME (specify with units)		
		A. DAYS PER WEEK *(specify average)*	B. MONTHS PER YEAR *(specify average)*	1. MAXIMUM DAILY	2. LONG TERM AVERAGE	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	

2.3 PRODUCTION

A. Does an effluent limitation guideline (ELG) promulgated by EPA under section 304 of the Clean Water Act apply to your facility? Indicate the part and subparts applicable.

See supplementary report Section 4.0 for additional information on ELG applicability.

☐ Yes 40 CFR_____ Subpart(s) _____ ☑ No *(go to section 2.5)*

B. Are the limitations in the effluent guideline(s) expressed in terms of production (or other measure of operation)? Describe in C below.

☐ Yes *(complete C.)* ☑ No *(go to section 2.5)*

C. If you answered "yes" to B, list the quantity representing an actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline and indicate the affected outfalls.

A. OUTFALL(S)	B. QUANTITY PER DAY	C. UNITS OF MEASURE	D. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*

2.4 IMPROVEMENTS

A. Are you required by any federal, state, or local authority to meet any implementation schedule for the construction, upgrading, or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ Yes *(complete the following table)* ☑ No *(go to 2.6)*

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

B. Optional: provide below or attach additional sheets describing water pollution control programs or other environmental projects which may affect discharges. Indicate whether each program is underway or planned, and indicate actual or planned schedules for construction. This may include proposed bmp projects for stormwater.

2.5 SLUDGE MANAGEMENT

Describe the removal of any industrial or domestic biosolids or sludges generated at your facility. Include names and contact information for any haulers used. Note the frequency, volume, and methods (incineration, landfilling, composting, etc) used. See Form A for additional forms which may need to be completed.

Sludge from sanitary system is periodically hauled by Central Missouri Septic Services, Inc at 9267 Highway AN, Rosebud, MO 63091. Contact is Alex Dwyer (573) 764-3407.

DATA COLLECTION AND REPORTING REQUIREMENTS FOR APPLICANTS

3.0 EFFLUENT (AND INTAKE) CHARACTERISTICS (SEE INSTRUCTIONS)

A. & B. See instructions before continuing – complete one Table 1 for **each outfall** (and intake) – annotate the outfall (intake) number or designation in the space provided. The facility is not required to complete intake data unless required by the department or rule.

C. Use the space below to list any pollutants listed in the instructions section 3.0 C. Table B which you know or have reason to believe is discharged or may be discharged from any outfall not listed in parts 3.0 A or B on Table 1. For every pollutant listed, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	3. OUTFALL(S)	4. ANALYTICAL RESULTS (INCLUDE UNITS)
none believed present			

3.1 Whole Effluent Toxicity Testing

A. To your knowledge, have any Whole Effluent Toxicity (WET) tests been performed on the facility discharges (or on receiving waters in relation to your discharge) within the last three years?

☐ Yes (go to 3.1 B) ☑ No (go to 3.2)

3.1 B

Disclose wet testing conditions, including test duration (chronic or acute), the organisms tested, and the testing results. Provide any results of toxicity identification evaluations (TIE) or toxicity reduction evaluations (TRE) if applicable. Please indicate the conclusions of the test(s) including any pollutants identified as causing toxicity and steps the facility is taking to remedy the toxicity.

WET testing no longer required by permit.

3.2 CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported herein, above, or on Table 1 performed by a contract laboratory or consulting firm?

☑ Yes (list the name, address, telephone number, and pollutants analyzed by each laboratory or firm.) ☐ No *(go to 4.0)*

A. LAB NAME	B. ADDRESS	C. TELEPHONE *(area code and number)*	D. POLLUTANTS ANALYZED *(list or group)*
Ozark Testing	1511 Watts Drive, PO Box 806 Rolla, MO 65401	(573)-364-8900	BOD, Total Suspended Solids, pH, Ammonia, Total Residual Chlorine, E. coli, Chloride + Sulfate, Phenol
			Oil & Grease, COD, Total Organic Carbon, Nitrate, Nitrite, Phosphorus

4.0 STORMWATER See supplementary report Section 6.0 for additonal information on stormwater management.

4.1
Do you have industrial stormwater discharges from the site? If so, attach a site map outlining drainage areas served by each outfall. Indicate the following attributes within each drainage area: pavement or other impervious surfaces; buildings; outdoor storage areas; material loading and unloading areas; outdoor industrial activities; structural stormwater control measures; hazardous waste treatment, storage, and disposal units; and wells or springs in the area.

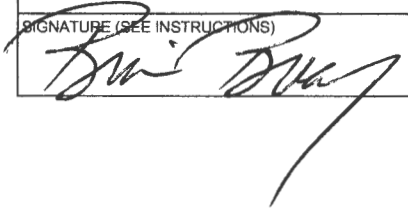
OUTFALL NUMBER	TOTAL AREA DRAINED (PROVIDE UNITS)	TYPES OF SURFACES (VEGETATED, STONE , PAVED, ETC)	BEST MANAGEMENT PRACTICES EMPLOYED; INCLUDE STRUCTURAL BMPS AND TREATMENT DESIGN FLOW FOR BMPS DESCRIBE HOW FLOW IS MEASURED
002	17.8	Vegetated, paved, graveled	Treatment in sedimentation basins, solids and pollutants removed via settling.
003	19.8	Paved, vegetated, roofs	Minimize exposure and good housekeeping.

4.2 STORMWATER FLOWS
Provide the date of sampling with the flows, and how the flows were estimated.
Flows are estimated based on drainage areas, pipe size, and visual observation of discharge

SIGNATORY REQUIREMENTS

5.0 CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Brian Brockway, Plant Manager	573-859-5503
SIGNATURE (SEE INSTRUCTIONS)	DATE SIGNED
	6-25-2019

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: OUTFALL NO. 001

3.0 PART A – You must provide the results of at least one analysis for every pollutant in Part A. Complete one table for each outfall or proposed outfall. See instructions.

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	26.2	2.48			10.21	0.14	19	mg/L	lb/day
B. Chemical Oxygen Demand (COD)	<5.0	<0.47					1	mg/L	lb/day
C. Total Organic Carbon (TOC)	3.0	0.28					1	mg/L	lb/day
D. Total Suspended Solids (TSS)	19.0	1.80			10.64	0.15	19	mg/L	lb/day
E. Ammonia as N	55.2	5.23					19	mg/L	lb/day
F. Flow	VALUE 0.011*		VALUE		VALUE 0.0017*		19	MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE 71.8		VALUE		VALUE		7	°F	
H. Temperature *(summer)*	VALUE 80.1		VALUE		VALUE		6	°F	
I. pH	MINIMUM 5.95		MAXIMUM 8.20		AVERAGE		19	STANDARD UNITS (SU)	

3.0 PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark Column 2A for any pollutant, you must provide the results for at least one analysis for the pollutant. Complete one table for each outfall (intake). Provide results for additional parameters not listed here in Part 3.0 C.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)		X									
D. Chlorine, Total Residual		X**	0.03	0.003					10	mg/L	lb/day
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

Note - *Unit reporting error was present in DMR data. Values included reflect corrected flows. See Section 2.1 of Supplementary Report.
**Total residual chlorine is no longer believed present. UV disinfection is used.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. *E. coli*	X		115.3				2.4		15	#/100mL	
H. Fluoride (16984-48-8)		X									
I. Nitrate plus Nitrate *(as N)*	X		8.6	0.82					1	mg/L	lb/day
J. Kjeldahl, Total (as N)		X									
K. Nitrogen, Total Organic *(as N)*		X									
L. Oil and Grease		X									
M. Phenols, Total		X									
N. Phosphorus *(as P)*, Total (7723-14-0)	X		2.4	0.23					1	mg/L	lb/day
O. Sulfate *(as SO^4)* (14808-79-8)		X									
P. Sulfide *(as S)*		X									
Q. Sulfite (as SO^3) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total		X									
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)		X									
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)		X									
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)		X									
12M. Iron, Total Recoverable (7439-89-6)		X									
13M. Lead, Total Recoverable (7439-92-1)		X									
14M. Magnesium, Total Recoverable (7439-95-4)		X									
15M. Manganese, Total Recoverable (7439-96-5)		X									
16M. Mercury, Total Recoverable (7439-97-6)		X									
17M. Methylmercury (22967926)		X									
18M. Molybdenum, Total Recoverable (7439-98-7)		X									
19M. Nickel, Total Recoverable (7440-02-0)		X									
20M. Selenium, Total Recoverable (7782-49-2)		X									
21M. Silver, Total Recoverable (7440-22-4)		X									
22M. Thallium, Total Recoverable (7440-28-0)		X									
23M. Tin, Total Recoverable (7440-31-5)		X									
24M. Titanium, Total Recoverable (7440-32-6)		X									
25M. Zinc, Total Recoverable (7440-66-6)		X									
Subpart 3 – Radioactivity											
1R. Alpha Total		X									
2R. Beta Total		X									
3R. Radium Total		X									
4R. Radium 226 plus 228 Total		X									

INSTRUCTIONS FOR FILLING OUT APPLICATION FOR NPDES DISCHARGE PERMIT – FORM C – MANUFACTURING, COMMERCIAL, MINING, SILVICULTURE OPERATIONS, PROCESS WASTEWATER, NON-PROCESS WASTEWATER, AND INDUSTRIAL STORMWATER DISCHARGES.

All applicable sections must be filled in when the application is submitted. The form must be signed as indicated. This application is to be completed only for facilities with a discharge. Non-discharging (land application facilities) should fill out the appropriate forms for the activity. Include any area with potential discharge, even if there is normally no discharge. If this form is not adequate for you to describe your existing operations, then sufficient information should be attached so an evaluation of the discharges can be made. Attach additional sheets as necessary for any additional information. If an applicant believes previous outfalls are no longer applicable to the facility, please indicate so. Certain parts of the application may be submitted electronically, such as extensive analytical data, or project plans relating to improvements. This may be included using a thumb drive or CD. If extensive data is submitted without an electronic copy, the department may request the submission at a later time so the permit writer can mathematically evaluate the data. If you have any questions regarding this form please contact the Water Protection Program Operating Permits Administrative Assistant at 800-361-4827 or 573-571-6825 and you will be directed to a permit writer.

GENERAL INFORMATION

1.0 Name of Facility – By what title or name is this facility known? Has the official name changed? Please indicate both the previous and current name you wish to be listed on the permit.

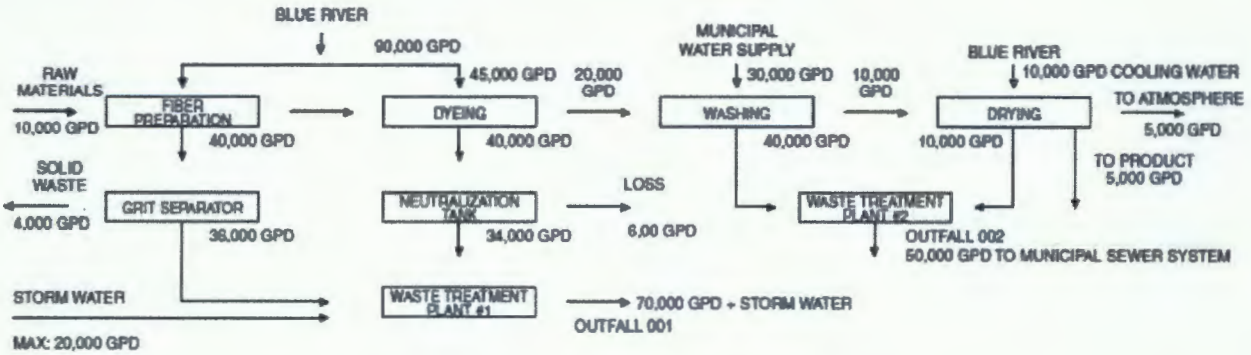
1.1 Operating permit number as assigned (MO-#######)

1.2 Indicate if this is a new facility or if there are any new discharges. Has the facility completed an antidegradation review? Is this facility being moved from a general permit to a site specific permit? If so, indicate general permit number.

1.3 Self-explanatory.

FLOWS, TYPE, AND FREQUENCY

2.0 The line drawing should show the route taken by water in your facility from intake to discharge. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and stormwater runoff. Indicate any alternate treatment trains available. You may group similar operations into a single unit labeled to correspond to the more detailed listing. More than one drawing may be required depending on the complexity of the system. The water balance should show average and maximum flows. Show all significant losses of water to: products, atmosphere, public sewer systems; both storm sewer and sewer. You should use actual measurements whenever available; otherwise, use your best estimate. An example of an acceptable line drawing appears below.



2.1 List all sources of wastewater to each outfall. Operations may be described in general terms (for example, "dye-making reactor" or a "distillation tower"). You may estimate the flow contributed by each source if no data is available, and for stormwater, you may use any reasonable measure of duration, volume, or frequency. For each treatment unit, indicate its size, flow rate, and retention time, and describe the ultimate disposal of any solid or liquid wastes not discharged. Treatment units should be listed in order and you should select the proper code from Table A to fill in column 3B for each treatment unit. Insert "XX" into column 3B if no code corresponds to a treatment unit you list.

TABLE A – CODES FOR TREATMENT UNITS			
PHYSICAL TREATMENT PROCESSES			
1-A	Ammonia Stripping	1-M	Grit Removal
1-B	Dialysis	1-N	Microstraining
1-C	Diatomaceous Earth Filtration	1-O	Mixing
1-D	Distillation	1-P	Moving Bed Filters
1-E	Electrodialysis	1-Q	Multimedia Filtration
1-F	Evaporation	1-R	Rapid Sand Filtration
1-G	Flocculation	1-S	Reverse Osmosis (Hyper Filtration)
1-H	Flotation	1-T	Screening
1-I	Foam Fractionation	1-U	Sedimentation (Settling)
1-J	Freezing	1-V	Slow Sand Filtration
1-K	Gas-Phase Separation	1-W	Solvent Extraction
1-L	Grinding (Comminutors)	1-X	Sorption
CHEMICAL TREATMENT PROCESSES			
2-A	Carbon Absorption	2-G	Disinfection (Ozone)
2-B	Chemical Oxidation	2-H	Disinfection (Other)
2-C	Chemical Precipitation	2-I	Electrochemical Treatment
2-D	Coagulation	2-J	Ion Exchange
2-E	Dechlorination	2-K	Neutralization
2-F	Disinfection (Chlorine)	2-L	Reduction
BIOLOGICAL TREATMENT PROCESSES			
3-A	Activated Sludge	3-E	Pre-Aeration
3-B	Aerated Lagoons	3-F	Spray Irrigation/Land Application
3-C	Anaerobic Treatment	3-G	Stabilization Ponds
3-D	Nitrification-Denitrification	3-H	Trickling Filtration
OTHER PROCESSES			
4-A	Discharge to Surface Water	4-C	Reuse/Recycle of Treated Effluent
4-B	Ocean Discharge Through Outfall	4-D	Underground Injection
SLUDGE TREATMENT AND DISPOSAL PROCESSES			
5-A	Aerobic Digestion	5-M	Heat Drying
5-B	Anaerobic Digestion	5-N	Heat Treatment
5-C	Belt Filtration	5-O	Incineration
5-D	Centrifugation	5-P	Land Application
5-E	Chemical Conditioning	5-Q	Landfill
5-F	Chlorine Treatment	5-R	Pressure Filtration
5-G	Composting	5-S	Pyrolysis
5-H	Drying Beds	5-T	Sludge Lagoons
5-I	Elutriation	5-U	Vacuum Filtration
5-J	Flotation Thickening	5-V	Vibration
5-K	Freezing	5-W	Web Oxidation
5-L	Gravity Thickening		

2.2 A discharge is intermittent unless it occurs without interruption during the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities. A discharge is seasonal if it occurs only during certain parts of the year. Fill in every applicable column in this item for each source of intermittent or seasonal discharges. Base your answers on actual data whenever available; otherwise, provide your best estimate. Report the highest daily value for flow rate and total volume in the "Maximum Daily" columns. Report the average of all daily values measures during days when discharge occurred within the last year in the "Long Term Average" columns.

PRODUCTION

2.3 A. All effluent limitation guidelines (ELGs) promulgated by EPA appear in the Federal Register and are published annually in 40 CPR Subchapter N (400-499). A guideline applies to you based on the applicability sections within each subpart. If you are unsure you are covered by an ELG, check with your Missouri Department of Natural Resources' Regional Office. You must check yes if an applicable effluent guideline has been promulgated, even if the guideline limitations are being contested in court. If you believe a promulgated effluent guideline has been remanded for reconsideration by a court and does not apply to your operations, you may check no. The ELG number and subpart(s) must be included.

2.3 B. An ELG is expressed in terms of production (or other measure of operation) if the limitations are expressed as mass of pollutant per operational parameter; for example, "pounds of BOD per cubic foot of logs from which bark is removed," or "pounds of TSS per megawatt hour of electrical energy consumed by smelting furnace." An example of a guideline not expressed in terms of a measure of operation is one which limits the concentration of pollutants, or requires no discharge of the wastewater.

2.3 C. This item must be completed if you checked "yes" to item B. The production information requested here is necessary to apply effluent guidelines to your facility and you may not claim it as confidential. However, you do not have to indicate how the reported information was calculated. Report quantities and the units of measurement used in the applicable effluent guideline. The data provided must be a measure of actual operation over a one month period, such as the production for the highest month during the last twelve months, or the monthly average production for the highest year of the last five years, or other reasonable measure of actual operation, but may not be based on design capacity or on predictions of future increases in operation. This data must be concurrent of facility operations.

2.4 IMPROVEMENTS If you check yes to this question, complete all parts of the table, or attach a copy of any previous submission you have made containing the same information. You are not required to submit a description of future pollution control projects if you do not wish to, or if none are planned.

2.5 SLUDGE MANAGEMENT If the facility generates any sludge or biosolids, please indicate where the sludge accumulates (lagoon, tank, etc.) and the methods of disposal. Please include the volume and frequency of sludge removal/disposal and any haulers used. Please indicate if the facility composts, incinerates, landfills, stores, sells, or other methods of eliminating the sludge from lagoons or holding tanks. Consider submitting a sludge or biosolids management plan electronically if additional description is needed.

DATA COLLECTION AND REPORTING REQUIREMENTS FOR APPLICANTS

3.0 This section requires collection and reporting of data on pollutants discharged from each outfall, including stormwater outfalls, non-process wastewater, and any intake data you wish to provide. Parts A, B, and C address different sets of pollutants and must be completed in accordance with the specific instructions for the part. All data must be reported as a concentration **and** as total mass. You may report some or all of the required data by attaching separate sheets of paper.

3.0 A. and B. These sections are found on Table 1. Complete a separate table for each outfall and intake.

3.0 A. Requires reporting at least one analysis for each pollutant. Part A must be completed by all applicants for all outfalls, including outfalls containing only noncontact cooling water, stormwater runoff, or other discharges; intake values are not required in this Part. Upon written request, (email is suitable) prior to submitting the application, the department may waive the requirements to test for one or more of these pollutants upon determining testing for the pollutant(s) is not applicable for your effluent.

3.0 B. Mark "X" in either "Believed Present", Column 2A, or "Believed Absent", Column 2B, for each pollutant, based on your best estimate, and test those you believe present. Base your determination a pollutant is present in, or absent from, your discharge on your knowledge of your raw materials, source water, maintenance chemicals, intermediate, byproduct, and final products, and any previous analyses known to you of the facility's effluent, or of any similar effluent. If either chloride or sulfate is believed present, the department asks you to test for both chloride and sulfate. If you expect a pollutant is present as a result your intake water, you should mark "Believed Present" and analyze for the pollutant. Provide analysis of the intake or source water as well; this includes water withdrawn from wells or obtained from a potable water source. Presence of a pollutant in the discharge from sourced water does not eliminate disclosure requirements. If a

pollutant is reported as not present, the pollutant will be considered "believed absent" for the purposes of application shield.

3.0 A and B Continued

Use the following abbreviations (or other as applicable) in Column 4, "Units". Mass must be specified as per day, month, or year.

CONCENTRATION		MASS	
ppm	parts per million	lbs	pounds
mg/L	milligrams per liter	ton	tons (English tons)
ppb	parts per billion	mg	Milligrams
ug/L	micrograms per liter	g	grams
pCi/L	picocuries per liter	kg	kilograms
		T	tonnes (metric tons)

MAXIMUM DAILY VALUE. If you measure a pollutant only once, complete only the "Maximum Daily Value" columns and insert "1" into the "number of analyses" in Column D. The Missouri Department of Natural Resources may require you to conduct additional analyses to further characterize your discharge. If the pollutant is sampled but not detected, a less than "<" symbol should be used next to the detection limit (or laboratory reporting limit). Simply stating "below detection limits" without quantifying the limit of detection may not be appropriate and additional information may be required.

MAXIMUM 30 DAY VALUES. "Maximum 30 Day Values" are not compulsory but should be filled out if data is available. The department suggests at least 4 samples (one per week) be collected over a one month period for averaging purposes, but is not required. Determine the average of all daily values taken during one calendar month, and report the highest average of all daily values taken during all calendar months, and report the highest average in Column B. Column D must show the number of samples used in the calculation.

LONG TERM AVERAGES. "Long Term Average Values" are not compulsory but should be filled out if data is available. Determine the long term average of all the data and report in Column C. Column D must show the number of samples used in the calculations. The facility should include a statement describing the timeframe of the data used in the calculations. Consider including an electronic copy of the data with the application.

SAMPLING. The collection of samples for analyses should be supervised by a person experienced in performing sampling of industrial wastewater and/or stormwater. You may contact your Missouri Department of Natural Resources' Regional Office for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate or blank samples, etc. The time when you sample should be representative of your normal operation, with all processes contributing wastewater in normal operation, and with your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, at a site specified in your present permit, or for new discharges, at any site adequate for the collection of a representative sample.

GRAB SAMPLE. An individual sample of sufficient volume for analysis, collected at a randomly selected time, over a period not exceeding 15 minutes, which is representative of the discharge. Grab samples must be used for temperature, pH, total residual chlorine, oil and grease, *E. coli,* and any pollutant considered to be volatile. Grab samples are typically appropriate for stormwater.

COMPOSITE SAMPLE. Use composite sampling (if available) for all pollutants (except above). A combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be proportional; either time interval proportional, or flow proportional. Aliquots may be collected manually or automatically.

ANALYSIS. You must use test methods promulgated in 40 CFR Part 136 for all analyses. The facility must use a sufficiently sensitive method to determine compliance with Missouri Water Quality Standards in accordance with Standard Conditions Part I. If no method has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge. If there is no promulgated method, your attached description should include the preservation techniques, sample holding times, the quality control measures which you used, and any other

pertinent information, such as filtering or what fraction the method detects. For obscure methods or new contaminants, consider including an electronic copy of the method with the application and the laboratory analysis sheets.

IDENTICAL OUTFALL CONSIDERATION. If you have two or more substantially identical outfalls, you may submit the results of the analysis for one substantially identical outfall in its place. Identify which outfall you did test and describe why the outfalls which you did not test are substantially identical to the outfall you did test.

REPORTING OF INTAKE DATA. You are not required to report intake data unless you wish apply for "net" effluent limitations for one or more pollutants. Net limitations are technology limits adjusted by subtracting the level of the pollutant present in the intake water from the discharge. National Pollutant Discharge Elimination System (NPDES) regulations allow net limitations only in certain circumstances. To demonstrate eligibility, report the maximum and average of the results of analyses on the intake water, attach a statement the intake water is drawn from the same body of water into which the discharge is made, and a statement how the pollutant level is reduced by the wastewater treatment. When applicable, a demonstration to the extent the pollutants in the intake vary physically, chemically, or biologically from the pollutants contained in the discharge; for example, when the pollutant represents a class of compounds.

3.0. C. requires listing any pollutants from "TABLE B – TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT" you believe to be present and explain why you believe them to be present. If you have analytical data, you must report it. You may include other pollutants not listed below but present in your discharge in 3.0 C. Please provide Chemical Abstract Service (CAS) numbers for any additional pollutants described. If the facility is required to complete Form D, duplication of the parameters here is not required.

TABLE B – TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANTS IF EXPECTED TO BE PRESENT		
TOXIC POLLUTANT	HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES
Asbestos	Dimethylamine	Napthenic acid
HAZARDOUS SUBSTANCES	Dintrobenzene	Nitrotoluene
Acetaldehyde	Diquat	Parathion
Allyl alcohol	Disulfoton	Phenolsulfonate
Allyl chloride	Diuron	Phosgene
Amyl acetate	Epichlorohydrin	Propargite
Aniline	Ethion	Propylene oxide
Benzonitrile	Ethylene diamine	Pyrethrins
Benzyl chloride	Ethylene dibromide	Quinoline
Butyl acetate	Formaldehyde	Resorcinol
Butylamine	Furfural	Strontium
Captan	Guthion	Strychnine
Carbaryl	Isoprene	Sytrene
Carbofuran	Isopropanolamine	2,4,5-T (2,4,5-Trichloro-phenoxyacetic acid)
Carbon disulfide	Kelthane	TDE (Tetrachlorodiphenyl ethane)
Chlorpyrifos	Kepone	2, 4, 5-TP (2-(2,4,5-Trichloro-phenoxy) propanoic acid)
Coumaphos	Malathion	Trichlorofon
Cresol	Mercaptodimethur	Triethanolamine
Crotonaldehyde	Methoxychlor	Triethaylamine
2,4-D (2,4-Dichloro-Phenoxyacetic acid)	Methyl mercaptan	Uranium
Diazinon	Methyl parathion	Vanadium
Dicamba	Mevinphos	Vinyl acetate
Dichlobenil	Mexacarbate	Xylene
2,2-Dichloropropionic acid	Monethyl amine	Xylenol
Dichlorvos	Monomethyl amine	Zirconium
Diethylamine	Nalad	

3.1 Self-explanatory.

3.2 Self-explanatory.

4.0 STORMWATER [10 CSR 20-6.200(2)(C)1.]

In accordance with 10 CSR 20-6.200(2)(C)1.E(I) and (II), the facility must sample the stormwater for any pollutant listed in the permit for process wastewater discharges and/or the applicable Effluent Limitation Guideline. All industrial stormwater must be sampled for parameters listed in 10 CSR 20-6.200(2)(C)1.E.(III); these are: oil and grease, pH, biochemical oxygen demands (BOD_5), chemical oxygen demands (COD), total suspended solids (TSS), conductivity, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen.

4.1 Indicate the outfall numbers for industrial stormwater discharges. Provide the area drained by each outfall. Indicate the type and percentages of surface(s), for example: 60% grass or vegetated areas, 10% non-vegetated soils, 30% pavement, etc., the outfall drains. The facility must indicate any structural best management practices, such as settling/retention, rain garden/infiltration, filter socks, etc, employed at each outfall.

4.2 Describe the method used to determine the flow rate in accordance with 10 CSR 20-6.200(2)(C)1., and the flow rate; submit the date and duration of the storm event from which the samples were taken.

5.0 SIGNATORY REQUIREMENTS The Clean Water Act provides for severe penalties for submitting false information on this application form. Section 309(c)(2) of the Clean Water Act provides "Any person who knowingly makes any false statement, representation, or certification in any application . . . shall upon conviction, be punished by a fine of no more $10,000 or by imprisonment for not more than six months, or both.

All applications must be signed as follows and the signature must be original. For a corporation: by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters. For a partnership or sole proprietorship: by a general partner or the proprietor. For a municipal, state, federal or other public facility: by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: OUTFALL NO. 002

3.0 PART A – You must provide the results of at least one analysis for every pollutant in Part A. Complete one table for each outfall or proposed outfall. See instructions.

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	99.4	286					1	mg/L	lb/day
B. Chemical Oxygen Demand (COD)	1,100*	3,160*			353	263	12	mg/L	lb/day
C. Total Organic Carbon (TOC)	67	193					1	mg/L	lb/day
D. Total Suspended Solids (TSS)	79	227			42.5	31.7	21	mg/L	lb/day
E. Ammonia as N	0.09	0.26					1	mg/L	lb/day
F. Flow	VALUE 0.35 **		VALUE		VALUE 0.09**		21	MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE 64		VALUE		VALUE 59.2		7	°F	
H. Temperature *(summer)*	VALUE 80.4		VALUE		VALUE 68.7		5	°F	
I. pH	MINIMUM 6.8		MAXIMUM 7.7		AVERAGE		21	STANDARD UNITS (SU)	

3.0 PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark Column 2A for any pollutant, you must provide the results for at least one analysis for the pollutant. Complete one table for each outfall (intake). Provide results for additional parameters not listed here in Part 3.0 C.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)	X		231.3***	665***					9	mg/L	lb/day
D. Chlorine, Total Residual		X									
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

Note - *Maximum daily value for COD is suspected outlier.
**Unit reporting error was present in DMR data. Values included reflect corrected flows. See Section 2.1 of Supplementary Report.
***Chloride and sulfate are combined values.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. *E. coli*		X									
H. Fluoride (16984-48-8)		X									
I. Nitrate plus Nitrate *(as N)*	X		<0.2	<0.57					1	mg/L	lb/day
J. Kjeldahl, Total (as N)		X									
K. Nitrogen, Total Organic *(as N)*		X									
L. Oil and Grease	X		5.0	14.37			5.0	3.72	21	mg/L	lb/day
M. Phenols, Total	X		0.22	0.00063					21	ug/L	lb/day
N. Phosphorus *(as P)*, Total (7723-14-0)	X		0.50	1.44					1	mg/L	lb/day
O. Sulfate *(as SO^4)* (14808-79-8)	X		231.3*	665*					9	mg/L	lb/day
P. Sulfide *(as S)*		X									
Q. Sulfite (as SO^3) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total		X									
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)		X									
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)		X									
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

Note - *Chloride and sulfate are combined values

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)		X									
12M. Iron, Total Recoverable (7439-89-6)		X									
13M. Lead, Total Recoverable (7439-92-1)		X									
14M. Magnesium, Total Recoverable (7439-95-4)		X									
15M. Manganese, Total Recoverable (7439-96-5)		X									
16M. Mercury, Total Recoverable (7439-97-6)		X									
17M. Methylmercury (22967926)		X									
18M. Molybdenum, Total Recoverable (7439-98-7)		X									
19M. Nickel, Total Recoverable (7440-02-0)		X									
20M. Selenium, Total Recoverable (7782-49-2)		X									
21M. Silver, Total Recoverable (7440-22-4)		X									
22M. Thallium, Total Recoverable (7440-28-0)		X									
23M. Tin, Total Recoverable (7440-31-5)		X									
24M. Titanium, Total Recoverable (7440-32-6)		X									
25M. Zinc, Total Recoverable (7440-66-6)		X									
Subpart 3 – Radioactivity											
1R. Alpha Total		X									
2R. Beta Total		X									
3R. Radium Total		X									
4R. Radium 226 plus 228 Total		X									

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.
You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS THIS OUTFALL IS: OUTFALL NO. 003

3.0 PART A – You must provide the results of at least one analysis for every pollutant in Part A. Complete one table for each outfall or proposed outfall. See instructions.

1. POLLUTANT	2. VALUES							3. UNITS *(specify if blank)*	
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS			
A. Biochemical Oxygen Demand, 5-day (BOD_5)	11.3	42.8					1	mg/L	lb/day
B. Chemical Oxygen Demand (COD)	26.0	98.4					1	mg/L	lb/day
C. Total Organic Carbon (TOC)	15.0	56.8					1	mg/L	lb/day
D. Total Suspended Solids (TSS)	120	454.2			18.7	0.5	19	mg/L	lb/day
E. Ammonia as N	0.60	2.3					1	mg/L	lb/day
F. Flow	VALUE 0.456 *		VALUE		VALUE 0.004**		13	MILLIONS OF GALLONS PER DAY (MGD)	
G. Temperature *(winter)*	VALUE		VALUE		VALUE			°F	
H. Temperature *(summer)*	VALUE 61.5		VALUE		VALUE		1	°F	
I. pH	MINIMUM 6.13		MAXIMUM 8.4		AVERAGE		19	STANDARD UNITS (SU)	

3.0 PART B – Mark "X" in column 2A for each pollutant you know or have reason to believe is present. Mark "X" in column 2B for each pollutant you believe to be absent. If you mark Column 2A for any pollutant, you must provide the results for at least one analysis for the pollutant. Complete one table for each outfall (intake). Provide results for additional parameters not listed here in Part 3.0 C.

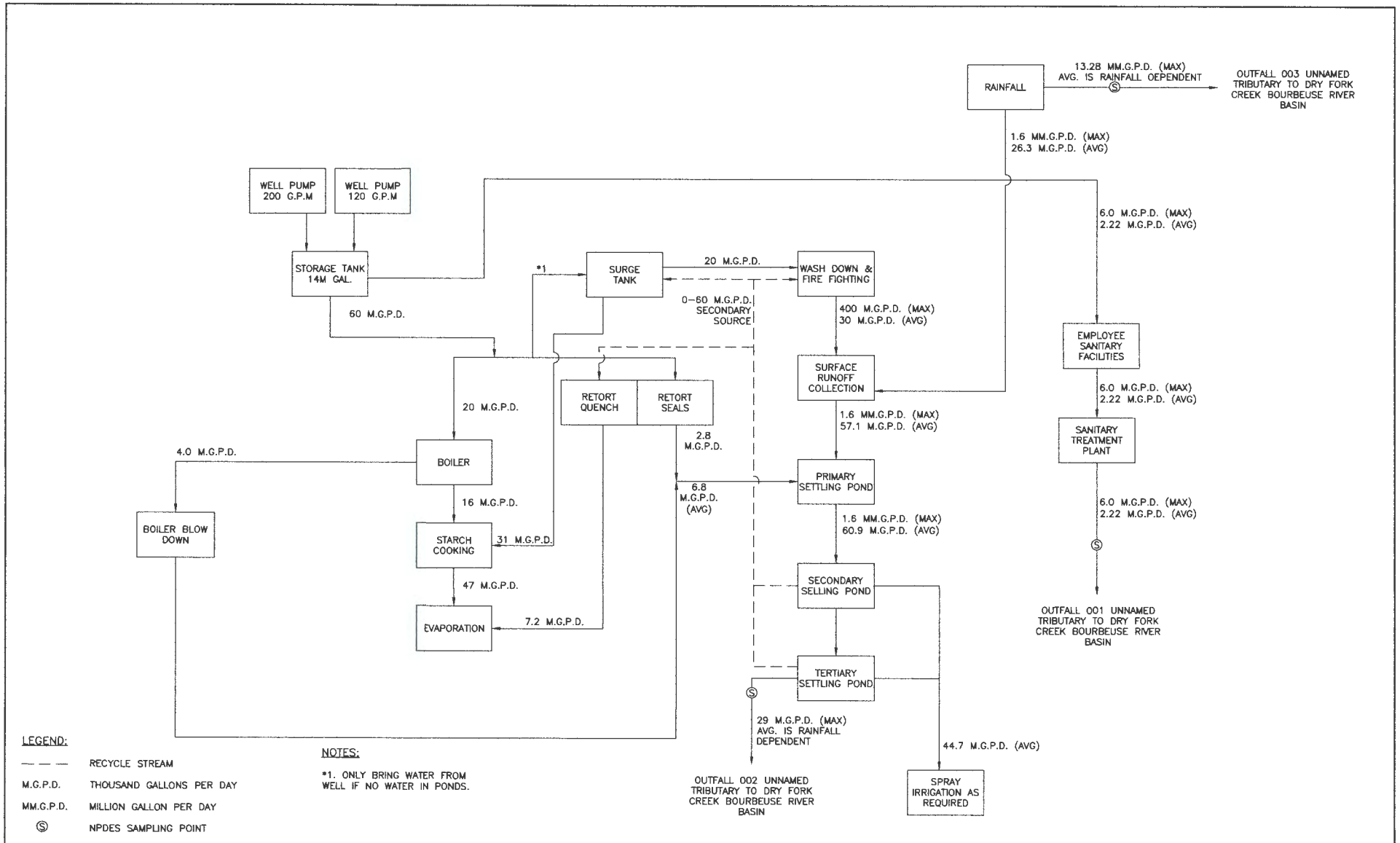
1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity ($CaCO_3$)		X	MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)		X									
C. Chloride (16887-00-6)		X									
D. Chlorine, Total Residual		X									
E. Color		X									
F. Conductivity		X									
F. Cyanide, Amenable to Chlorination		X									

Note - * Unit reporting error was present in DMR data. Values included reflect corrected flows. See Section 2.1 of Supplementary Report.
**LTA flow was calculated using data from 2017 as no flow data was available for 2018 or 2019.

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. *E. coli*	X		1,986*						1	col/100 mL	
H. Fluoride (16984-48-8)		X									
I. Nitrate plus Nitrate *(as N)*		X									
J. Kjeldahl, Total (as N)		X									
K. Nitrogen, Total Organic *(as N)*		X									
L. Oil and Grease	X		5.0	18.9			5.0	0.1	19	mg/L	lb/day
M. Phenols, Total		X									
N. Phosphorus *(as P)*, Total (7723-14-0)		X									
O. Sulfate *(as SO^4)* (14808-79-8)		X									
P. Sulfide *(as S)*		X									
Q. Sulfite (as SO^3) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total		X									
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)		X									
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)		X									
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

Note - *See Section 2.1 of supplementary report for additional information on E. coli at Outfall 003

1. POLLUTANT AND CAS NUMBER *(if available)*	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN-TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)		X									
12M. Iron, Total Recoverable (7439-89-6)		X									
13M. Lead, Total Recoverable (7439-92-1)		X									
14M. Magnesium, Total Recoverable (7439-95-4)		X									
15M. Manganese, Total Recoverable (7439-96-5)		X									
16M. Mercury, Total Recoverable (7439-97-6)		X									
17M. Methylmercury (22967926)		X									
18M. Molybdenum, Total Recoverable (7439-98-7)		X									
19M. Nickel, Total Recoverable (7440-02-0)		X									
20M. Selenium, Total Recoverable (7782-49-2)		X									
21M. Silver, Total Recoverable (7440-22-4)		X									
22M. Thallium, Total Recoverable (7440-28-0)		X									
23M. Tin, Total Recoverable (7440-31-5)		X									
24M. Titanium, Total Recoverable (7440-32-6)		X									
25M. Zinc, Total Recoverable (7440-66-6)		X									
Subpart 3 – Radioactivity											
1R. Alpha Total		X									
2R. Beta Total		X									
3R. Radium Total		X									
4R. Radium 226 plus 228 Total		X									



NO.	BY	CHK/APP.	DATE	REVISION DESCRIPTION

RELEASED TO/FOR: CLIENT / BID / CONSTRUCTION

DATE RELEASED: A B C 0 1 2 3

BARR — Project Office: BARR ENGINEERING CO. 3238 EMERALD LANE JEFFERSON CITY, MO 65109 Ph: 1-888-324-3933 Fax: (573) 638-8001 www.barr.com
Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277

Scale: AS SHOWN
Date:
Drawn:
Checked:
Designed:
Approved:

THE KINGSFORD MANUFACTURING COMPANY
BELLE, MISSOURI

NPDES WATER FLOW SCHEMATIC

BARR PROJECT No.
CLIENT PROJECT No.
DWG. No.
REV. No.


Outfall 002 Sub-Watershed
17.8 acres
Outfall 003 Sub-Watershed
19.8 acres
Outfall 002
Outfall 001
Outfall 003
COUNTY RD 314
COUNTY RD 315
Outfall Location
Flow Direction
Site-Specific Outfall Sub-Watershed
Property Boundary
NHD Flowline
Missouri's Use Designations - Streams
Streams That May Cease Flow in Dry Periods
0
425
Feet
1 inch = 425 feet
SUB-WATERSHED MAP
NPDES Permit Renewal
Kingsford Manufacturing Company
FORM C
BARR

RECEIVED
JUN 27 2019
Water Protection Program

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM I – PERMIT APPLICATION FOR OPERATION OF WASTEWATER IRRIGATION SYSTEMS

FOR AGENCY USE ONLY
PERMIT NUMBER MO -
DATE RECEIVED

INSTRUCTIONS: The following forms must be submitted with Form I: FORM B or B2 for domestic wastewater.
FORM A for industrial wastewater.

1. FACILITY INFORMATION

1.1 Facility Name: Kingsford Manufacturing Company

1.2 Permit Number: MO- 0000931

1.3 Type of wastewater to be irrigated: ☐ Domestic ☐ Municipal ☐ State/National Park ☐ Seasonal business
☐ Municipal with Pretreatment Program or Significant Industrial Users ☑ Other (explain) Industrial - Outfall 002
SIC Codes (list all that apply, in order of importance) 2861

1.4 Months when the business or enterprise will operate or generate wastewater:
☑ 12 months per year ☐ Part of year (list Months): ___

1.5 This system is designed for:
☐ No-discharge ☑ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreation season (April – October) and discharge during November – March.
☐ Other (explain) ___

1.6 List the Facility outfalls which will be applicable to the irrigation system.
Outfall Numbers: 002

2. STORAGE BASINS

2.1 Number of storage basins: 4
Type of basin: ☐ Steel ☑ Concrete ☐ Fiberglass ☑ Earthen
☐ Earthen with membrane liner

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites 1 Total Acres 6
Location: ___ ¼, NW ¼, SW ¼, Sec 8 T 40N R 7W Maries County 6 Acres
Location: ___ ¼, ___ ¼, ___ ¼, Sec ___ T ___ R ___ _____ County _____ Acres
Attach pages as needed.

3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features.

3.3 Type of vegetation: ☑ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☐ Other (describe) _____

3.4 Wastewater flow (dry weather) gallons/day:
Average annual: 6,324 gpd Seasonal NA Off-season NA
Months of seasonal flow: NA

Irrigation rates are calculated using data from 2016-2019.

3. LAND APPLICATION SYSTEM (continued)

3.5 Land Application rate per acre (design flow including 1 in 10 year stormwater flows):

Design: 50 inches/year 0.2 inches/hour 0.75 inches/day 3.0 inches/week

Actual: 19 inches/year .002 inches/hour 0.05 inches/day 0.36 inches/week

Total Irrigation per year (gallons): 8,133,000 Design 2,308,095 Actual

Actual months used for Irrigation (check all that apply):

☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec

3.6 Land Application Rate is based on:

☐ Nutrient Management Plan (N&P)

☐ Hydraulic Loading

☑ Other (describe) Effluent from Outfall 002 that is not suitable for reuse in the plant is used for irrigation

3.7 Equipment type: ☑ Sprinklers ☐ Gated pipe ☐ Center pivot ☐ Traveling gun ☐ Other (describe) _____

Equipment Flow Capacity: 15,000 Gallons per hour 409 Total hours of operation per year

3.8 **Public Use Areas**. Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:

☑ Site is Fenced ☐ Wastewater disinfection prior to irrigation ☑ Site is not for public use

☑ Other (describe): Industrial Site - Access is restricted and site is partially fenced

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features:

1,200 Permanent flowing stream NA Losing Stream 150 Intermittent (wet weather) stream NA Lake or pond

1,200 Property boundary NA Dwellings 1,300 Water supply well NA Other (describe) _____

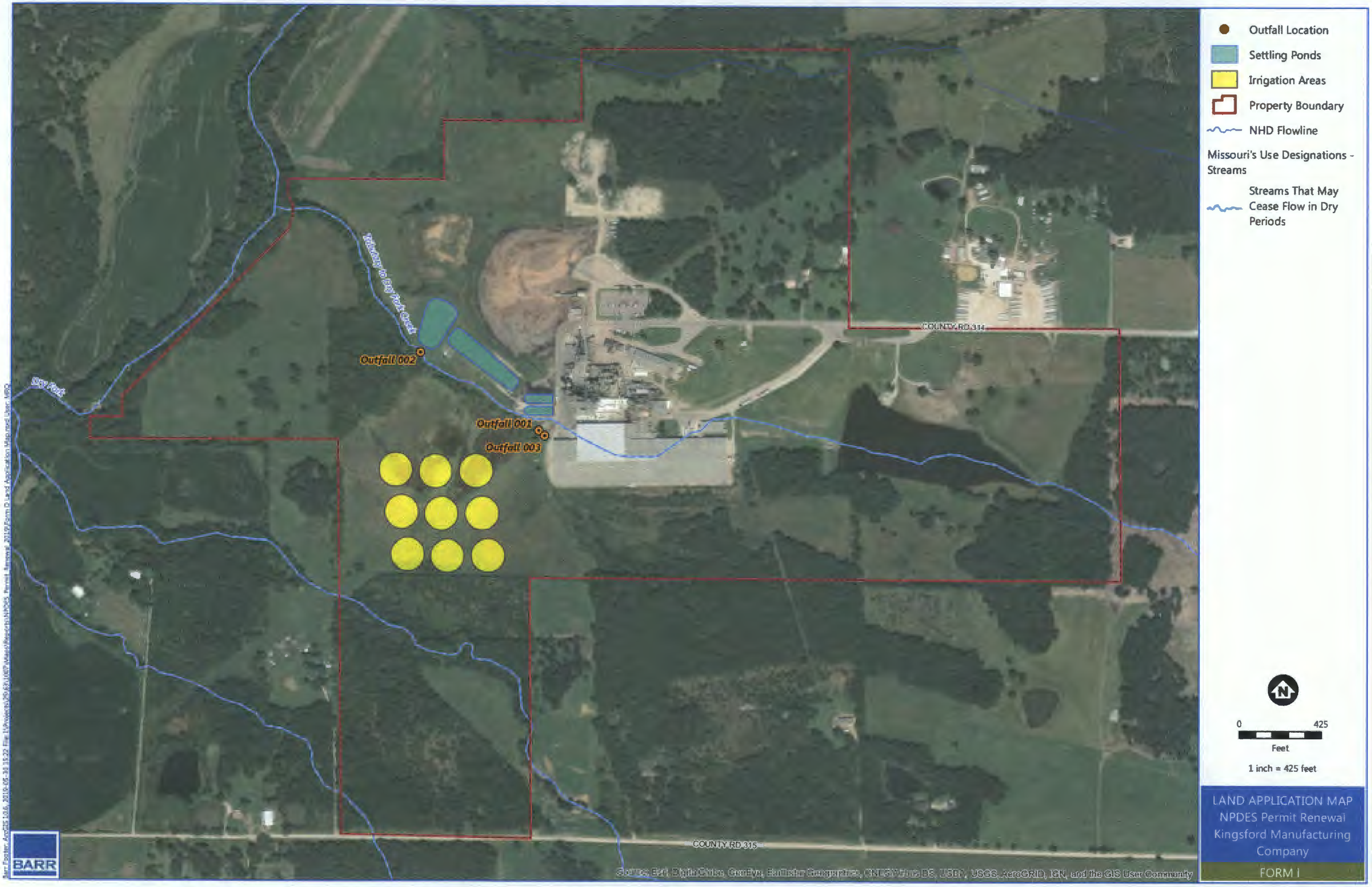
3.10 The facility must develop and retain an Operation and Maintenance (O&M) Plan for the irrigation system.

Date of O&M Plan: 05/06/2019

4. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

OWNER OR AUTHORIZED REPRESENTATIVE	OFFICIAL TITLE
Brian Brockway	Plant Manager
	TELEPHONE NUMBER WITH AREA CODE
	(573) 859-5503
SIGNATURE	DATE SIGNED
Brian Brockway	6-25-2019


Outfall Location
Settling Ponds
Irrigation Areas
Property Boundary
NHD Flowline
Missouri's Use Designations - Streams
Streams That May Cease Flow in Dry Periods
Outfall 001
Outfall 002
Outfall 003
Tributary to Dry Fork Creek
Dry Fork
COUNTY RD 314
COUNTY RD 315
0
425
Feet
1 inch = 425 feet
LAND APPLICATION MAP
NPDES Permit Renewal
Kingsford Manufacturing Company
FORM I
BARR

OPERATION AND MAINTENANCE MANUAL

PROCESS AND STORMWATER TREATMENT, LAND APPLICATION AND DISCHARGE AT OUTFALL 002

KINGSFORD MANUFACTURING COMPANY
BELLE, MISSOURI

Date: May 6, 2019

TABLE OF CONTENTS

APPENDICES

1.0 PLANT SITE OVERVIEW

1.1 FACILITY LOCATION

The Kingsford Manufacturing Company (KMC) facility is located approximately 6 miles south of Belle, Missouri on State Highway 28. The address for the facility is:

Kingsford Manufacturing Company
21200 Maries Rd 314
Belle, Missouri 65013.

The legal description of the facility is N ½, SW ¼, Sec. 8, T40N, R7W, Maries County.

1.2 PERMIT

Kingsford Manufacturing Company (KMC) is authorized to discharge stormwater and process water under Missouri State Operating Permit, (the state equivalent of the federal NPDES permit) MO0000931. This permit authorizes KMC to discharge from the facility in accordance with the effluent limitations and monitoring requirements set forth within that permit. The most recent permit was reissued on September 1, 2017.

The receiving stream for this facility's discharge is an unnamed tributary to Dry Fork Creek (U). The first classified stream and ID is the Dry Fork Creek (C) (02041).

This permit authorizes KMC to discharge to surface water from the following outfalls:

- Outfall 001 – Sanitary wastewater
- Outfall 002 – Process water and stormwater, and
- Outfall 003 – Stormwater.

The permit also authorizes irrigation of process water and stormwater in a no-discharge land application system.

This Operation and Maintenance Manual describes those operations related to collection, treatment, discharge and land application of stormwater and process water related to Outfall 002.

1.3 FACILITY OVERVIEW

Outfall 002 consists of process water, including facility wash down water, firefighting water, boiler blow down water, and retort seal water and stormwater from the site manufacturing areas. For purposes of this plan process water and stormwater are referred to collectively as wastewater. The wastewater is treated by a series of settling basins (primary, secondary and tertiary), followed by irrigation or discharge. Treated wastewater is recycled as much as possible into the manufacturing process. Solids are periodically removed from the settling basins and recycled to the manufacturing process.

This system of settling basins consists of:

- Moat and drag chain
- Primary Basins (2) – total volume 418,880 gallons
- Secondary Basin – total volume 1,800,000 gallons
- Tertiary Basin – total volume 800,000 gallons

Wastewater is either discharged from the Tertiary Basin through Outfall 002, or land applied. Runoff from the land application to the unnamed tributary area is not permitted.

Appendix A is a map of the treatment, land application and discharge system at Outfall 002; it illustrates the spatial relationship of the settling basins, land application area, and outfall.

The permit limits of the land application system are:

1. Irrigation Area: 6 acres
2. Application rates/acre:
   - 0.2 in/hr,
   - 0.75 in/day,
   - 3.0 in/wk,
   - 50 in/yr
3. Irrigation Volume/year: 8,133,000 gallons
4. Equipment Type:
   - Pump with a capacity of 300 gpm @ 300 ft. of water pressure
   - Total of 6 currently operating rotating sprinkler heads, 2 each on 3 legs of the irrigation field lines
   - Automated controls to cycle application across the entire irrigation area

2.0 OPERATION OF BASINS & LAND APPLICATION SYSTEM

2.1 MOAT AND DRAG CHAIN

Description / Purpose

All wastewater is discharged via surface flow or pipe to a concrete open box culvert (moat) where the wastewater collects before flowing to the Primary Basins through a saw tooth overflow weir. Larger solids settle out in the moat. A continuously operating mechanical drag chain removes solids from the moat and deposits them on a nearby pad where they are periodically removed by skid steer and reintroduced to the manufacturing process.

Preventative Maintenance

Preventative Maintenance Description	Frequency
• Lubricate drag chain	6 months
• Inspect and replace rubbers	6 months
• Tighten chain	Once per year
• Clean accumulation area	Once per shift

2.2 PRIMARY BASINS

Description / Purpose

Wastewater flows from the moat to a pair of parallel Primary Basins that are concrete lined. The inlets to each basin can be controlled so that wastewater can either flow to both of them simultaneously or individually. Wastewater in each of the basins is periodically lowered so that a loader is able to enter into the basin to dredge solids for return to the manufacturing process. Each basin is dredged as needed, which is about every eight to ten months.

To lower the water level in a basin, the weir to the basin is closed and wastewater is diverted to the other basin. The wastewater is pumped from one basin to the other basin using a portable pump by placing the inlet in the basin to be dewatered and the discharge into the other basin where it settles out and flows to the Secondary Basin.

Preventative Maintenance

Preventative Maintenance Description	Frequency
• Reclaim settled solids from basin	6-8 Months
• Inspect berm for structural integrity	6 months

2.3 SECONDARY BASIN

Description / Purpose

The Secondary Basin provides additional settling capacity. Two bands of floating wetland islands that run across the width of the basin are constructed of a buoyant plastic media containing hydrophilic vegetation (*carex sp.).* Biofilm accumulates on the media and the plant roots. Suspended solids adhere to the biofilm, coagulate, and periodically slough off to be deposited on the bottom. The surface area of the wetland islands is about 2000 square feet. Removal of settled solids from the Secondary Basin only occurs once every 6-10 years. Four diffusion aerators are used to reduce levels of BOD in the wastewater.

Preventative Maintenance

Preventative Maintenance Description	Frequency
• Mow vegetation around berm during growing season	As needed
• Inspect berm for structural integrity	6 months
• Cut floating wetland island vegetation to 18"	Annually at the end of the growing season
• Lower water level and evaluate solids accumulation to predict timing of solids reclaim	2 years
• Reclaim settled solids from basin	6-10 years

2.4 TERTIARY BASIN

Description / Purpose

The Tertiary Basin's primary function is to provide additional holding and settling capacity in order to direct flow either to the land application system or to discharge at Outfall 002.

Wastewater from this basin is also pumped to the plant for use in the process, for wash down, and for firefighting.

Using the Tertiary Basin to absorb the surges between rain events, and then pumping wastewater to the irrigation system to prepare for the next rain event, allows the Secondary Basin, the largest basin in this system, to remain at a constant full level. Keeping the Secondary Basin consistently full ensures maximum residence time and solids settling capability in that basin.

A controlled discharge system consisting of standpipe, discharge pipe and valve allows the facility to decide the timing of discharge from Outfall 002 during optimal conditions.

Floating wetland islands identical to those described in the previous section are also installed to reduce suspended solids. The surface area of the wetland islands is about 1300 square feet.

Operation

During dry periods the level in the Tertiary Basin is lowered by land application, or by controlled discharge through Outfall 002. This provides needed surge capacity to hold future large rain events. The preference is to irrigate as much as permitted to minimize discharge through Outfall 002 and to control the discharge so as to release only during optimal conditions when suspended solids concentrations are low.

This basin has a depth of 8 feet, and a storage capacity of about 800,000 gallons. To maintain the needed surge capacity, 3-5 feet of freeboard should to be maintained in this basin. A minimum of 2 feet of water must be kept in the basin to prevent the clay liner from drying out, cracking, and losing its seal.

Preventative Maintenance

Preventative Maintenance Description	Frequency
• Mow vegetation around berm during growing season	As needed
• Inspect berm for seepage	6 months
• Inspect berm for structural integrity	6 months
• Cut floating wetland island vegetation to 18"	Annually at the end of the growing season.

2.5 PUMPS

Description / Purpose

Three pumps exist in this system:

- Pump 12721 – North Wash Down Pump
- Pump 12722 – South Wash Down Pump

Pumps 12721 and 12722 have identical functions, i.e., to recycle wastewater back into the plant and to pump wastewater to the land application system. One pump can serve only one function at a time. However, valves allow either pump to be switched to either service, e.g. pump 12721 could be pumping wastewater to the plant, and pump 12722 pumping wastewater to the land application system. By switching some valve positions, pump 12721 could be pumping wastewater to the land application system and pump 12722 pumping wastewater to the plant. Pumps 12721 and 12722 will displace 300 gpm of wastewater at head pressure of 300 ft. of water pressure. Pump information and rating curves are found in Appendix C.

Preventative Maintenance

Preventative Maintenance Description	Frequency
• Check gear reducer for leaky seals	Monthly
• Check condition of guard	Monthly
• Check seal, pump, and piping for leaks	Monthly
• Check for unusual noise and vibration	Monthly
• Inspect inlet filter/strainer and replace as required	Monthly
• Inspect motor coupling for wear, alignment, loose bolts	Monthly
• Check mounting and structure for looseness	Quarterly
• Change gear reducer oil (if applicable)	Annually
• Laser align motor/gearbox shafts	Annually

2.6 LAND APPLICATION SYSTEM

Description / Purpose

The land application system consists of a 6-acre field with heavy vegetation, mainly in the form of tall grasses, with nine large rain-bird type sprinkler heads that distribute wastewater over the field. Six of the sprinkler heads are currently operating. Wastewater is pumped to

this system from the Tertiary Basin, using the pumps discussed in Section 2.5. This system is divided into three legs – Leg A, Leg B, and Leg C. Each leg has an electrically actuated ON/OFF valve at the beginning of the leg to control flow of wastewater to that leg. A Programmable Logic Controller (PLC) is used to control the valve positions and timing once the system has been turned on.

General Provisions

The following general provisions apply to land application:

- No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.
- Land application shall occur only during daylight hours.
- Land application fields shall be checked daily during land application for runoff. Spray irrigation shall be monitored for the drifting of spray across property lines.
- Setback distances:
  - 300 feet of any well, sinkhole, losing stream, wetland, or cave entrance, water supply impoundment or stream intake;
  - 150 feet of an occupied residence, public building, or public use area;
  - 50 feet of gaining perennial or intermittent stream, public or privately owned pond or lake;
  - 50 feet of property line or public road.
- The application rate shall not exceed the design hydraulic loading rate listed in the facility description.
- Each day, the facility must log the information included in the Land Application Table found in Appendix B.

Operation

To minimize discharge from in the Tertiary Holding Basin at Outfall 002, excess wastewater that cannot be reused in the plant should be pumped to the irrigation system when applicable, as allowed by the permit and only under conditions that will not permit runoff from application area.

To prevent runoff from the irrigation system, the system is divided into three legs – Leg A, Leg B, and Leg C. Each leg has three sprinklers, however only two sprinklers are currently operating at each leg. There is an electrically actuated ON/OFF valve at the beginning of the leg to control flow of wastewater to that leg. When the system is turned on, the PLC will open Leg A for 15 minutes to apply wastewater to that section of the field. At the end of the 15 minutes, the PLC will open the valve to Leg B and close the valve to Leg A and the system will apply wastewater to that section of the field for 15 minutes. This will continue until the system has cycled through all three legs A-B-C. This will apply wastewater to the field for a total of 45 minutes. At the capacity of the pumps outlined and system losses, the system will apply 17,500 gallons in these 45 minutes. The time interval between operation cycles should be maximized to allow as much wastewater to absorb into the ground as possible, while at the same time maintaining the freeboard level in the Tertiary Basin specified in Section 2.4.

The Briquet Operator is responsible for determining when the land application system should be turned on, taking the following into account:

- Maintain freeboard level in the Tertiary Basin specified in Section 2.4.
- Land apply only during daylight hours to the extent practicable
- Do not land apply during frozen, snow covered, or saturated soil conditions

Each time the system is turned on, the Briquet Operator must visually inspect the system for equipment malfunctions and to verify that there is no runoff from the land application area. The Briquet Operator shall place an entry in the Irrigation System Log (see Appendix B) noting the items listed below. This log is kept on an electronic Excel spreadsheet on the L:\Briquetting drive.

- The date and time the system was turned on,
- The duration of the cycle (default is 45 minutes),
- Any equipment malfunctions observed,
- Weather conditions,
- Verification of no runoff,
- The Briquet Operator's initials.

If the Briquet Operator observes anything unusual, i.e. equipment malfunctions, he or she must contact the plant Environmental Coordinator or leave a voice message or email if he/she cannot be contacted. The plant Environmental Coordinator shall review this log on a routine basis to verify it is being filled out properly and total rainfall for the month as measured by the Rolla National Airport located 7 miles from the plant site near Vichy, Missouri.

Preventative Maintenance

Preventative Maintenance Description	Frequency
• Inspect system for equipment malfunctions	Each Cycle
• Inspect for runoff	Each Cycle
• Inspect field for vegetation / fertilizer needs	Annually

3.0 ANNUAL REPORTING

An annual report must be submitted to the MDNR by January 28 of each year. The report shall include the following information:

- Record of maintenance and repairs during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year.
- A summary for each field used for land application showing number of acres used number of days application occurred, crop grown and yield, and total amount of wastewater applied (gal. or tons/acre).
- The report shall include any soil test results. If none were taken during the reporting year, report the date samples were taken.
- Narrative summary of any problems or deficiencies identified, corrective action taken and improvements planned.

APPENDICES

APPENDIX A

FIGURE 1 – LAND APPLICATION AND DISCHARGE COMPONENTS AT OUTFALL 002

REFERENCE

1. 2016 18inch AERIAL IMAGERY PROVIDED BY MSDIS REST SERVICE
   https://moimagery.missouri.edu/arcgis/rest/services/LGov/EasternMissouri18inch/ImageServer

SCALE IN FEET

0 200 400

*HAND SIGNATURE ON FILE

Civil & Environmental Consultants, Inc.
4848 Park 370 Blvd., Suite F - Hazelwood, MO 63042
314-656-4566 · 866-250-3679
www.cecinc.com

KINGSFORD MANUFACTURING CO.
21200 MARIES ROAD, SUITE 314
BELLE, MO 65013
KINGSFORD BELLE PLANT

OPERATION & MAINTENANCE PLAN
LAND APPLICATION/DISCHARGE OUTFALL 002

DRAWN BY:	CAC	CHECKED BY:	EBG	APPROVED BY:	JLB*	ATTACHMENT:
DATE:	MAY 2017	DWG SCALE:	1"=200'	PROJECT NO:	172-223.1703	A

P:\2017\172-223\-CADD\Dwg\EV01-SWPPP\172223-EV01 NPDES.dwg[FIGURE 1] LS:(5/25/2017 - cnogwe) - LP: 5/26/2017 9:18 AM

APPENDIX B

RECORD KEEPING FORMS

Daily
Land Application Table

PART 1: FACILITY INFORMATION

Facility Name	Kingsford Manufacturing Company	Facility Name	Kingsford Manufacturing Company
Facility Address	21200 Maries Road 314	Facility Address	21200 Maries Road 314
	Belle, Missouri 65013		Belle, Missouri 65013

PART 2: MONITORING INFORMATION

For The Month of: **December, 2007**

Outfall #: **005**
Land Application Operational Monitoring

Data Collected by: **Briquet Operators & Kevin Wilkins**

Date	Lagoon Freeboard Feet	Time Checked Mil Time	Cycles per Day	Irrigation Period Hours	Volume Irrigated Gallons	Application Area Acres	Application Rate Gallons/Acre	Rainfall (Daily) Inches	Equipment Malfunctions	Weather Conditions	Visual Appearance of Effluent	Operator
12/01/07				-	-	6	-					
12/02/07				-	-	6	-					
12/03/07				-	-	6	-					
12/04/07				-	-	6	-					
12/05/07				-	-	6	-					
12/06/07				-	-	6	-					
12/07/07				-	-	6	-					
12/08/07				-	-	6	-					
12/09/07				-	-	6	-					
12/10/07				-	-	6	-					
12/11/07				-	-	6	-					
12/12/07				-	-	6	-					
12/13/07				-	-	6	-					

APPENDIX C

PUMP 12721 & 12722 INFORMATION