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-0130516
Owner:	City of Kansas City
Address:	414 East 12th Street, Kansas City, MO 64106
Continuing Authority:	Kansas City Water Services Department
Address:	4800 East 63rd Street, Kansas City, MO 64130
Facility Name:	Kansas City Municipal Separate Storm Sewer System MS4
Facility Address:	4800 East 63rd Street, Kansas City, MO 64130
Legal Description:	See Pages 2 - 4
UTM Coordinates:	See Pages 2 - 4
Receiving Stream:	See Pages 2 - 4
First Classified Stream and ID:	See Pages 2 - 4
USGS Basin & Sub-watershed No.:	See Pages 2 - 4

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

FACILITY DESCRIPTION

The city of Kansas City is the largest city in the State of Missouri and has a population of 509,297 according to the 2020 U.S. Census; with an approximate area of 318 mi^2, and a population density of 1,614.5 population/mi^2. The permittee owns and operates their Phase I Large (based on the 1990 U.S. Census) Municipal Separate Storm Sewer System (MS4). The MS4 is comprised of man-made engineered components that are designed or developed to convey or transport stormwater within the permittee's jurisdiction.

This permit authorizes only stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

September 1, 2023
Effective Date

August 31, 2028
Expiration Date

John Hoke, Director, Water Protection Program

FACILITY DESCRIPTION (continued):
The following is a listing of representative major stormwater outfalls with the stormwater outfall's majority land use designation that discharge stormwater from the permittee's MS4 to waters of the state and diameter/width (inches) size of the discharging structure. For UTM Coordinates, X = easting coordinates and Y = northing coordinates, within Zone 15. This National Pollution Discharge Elimination System (NPDES) permit covers all discharges from the permittee's outfalls for both major and non-major outfalls, unless regulated under a separate NPDES permit.

OUTFALL 001 – Drainage area consisting primarily of airport and associated structures with a 36" wide discharge structure.

Legal Description	Sec. 16, T52N, R34W, Platte County
UTM Coordinates:	X = 351385.23, Y = 4353630.55
Receiving Stream:	Tributary to Prairie Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5043
USGS Basin & Sub-watershed:	102400120902

OUTFALL 002 – Drainage area consisting primarily of airport and associated structures with a 144" wide discharge structure.

Legal Description	Sec. 22, T52N, R34W, Platte County
UTM Coordinates:	X = 353252.97, Y = 4352514.39
Receiving Stream:	Todd Creek (C)
First Classified Stream and ID:	Todd Creek (C) WBID# 316
USGS Basin & Sub-watershed:	102400120710

OUTFALL 003 – Drainage area consisting primarily of residential and associated structures with a 78" wide discharge structure.

Legal Description	Sec. 31, T52N, R33W, Platte County
UTM Coordinates:	X = 357560.83, Y = 4348337.773
Receiving Stream:	Tributary to Second Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5043
USGS Basin & Sub-watershed:	102400120709

OUTFALL 004 – Drainage area consisting primarily of residential and associated structures with a 36" wide discharge structure.

Legal Description	Sec. 23, T52N, R33W, Clay County
UTM Coordinates:	X = 364711.65, Y = 4351882.18
Receiving Stream:	Tributary to Rocky Branch
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5043
USGS Basin & Sub-watershed:	102400120708

OUTFALL 005 – Drainage area consisting primarily of residential and agricultural entities with a 42" wide discharge structure.

Legal Description	Sec. 23, T52N, R32W, Clay County
UTM Coordinates:	X = 373511.09, Y = 4351079.57
Receiving Stream:	Fishing River (C)
First Classified Stream and ID:	Fishing River (C) WBID# 394
USGS Basin & Sub-watershed:	103001010404

OUTFALL 006 – Drainage area consisting primarily of residential and associated structures with a 48" wide discharge structure.

Legal Description	Sec. 15, T51N, R32W, Clay County
UTM Coordinates:	X = 372653.33, Y = 4343356.26
Receiving Stream:	Tributary to Little Shoal Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010303

OUTFALL 007 – Drainage area consisting primarily of residential and associated structures with a 48" wide discharge structure.

Legal Description	Sec. 12, T51N, R33W, Clay County
UTM Coordinates:	X = 364974.43, Y = 4344566.95
Receiving Stream:	Tributary to Shoal Creek
First Classified Stream and ID:	Shoal Creek (C) WBID # 397
USGS Basin & Sub-watershed:	103001010302

OUTFALL 008 – Drainage area consisting primarily of commercial entities with a 54" wide discharge structure.

Legal Description	Sec. 7, T51N, R33W, Platte County
UTM Coordinates:	X = 357840.31, Y = 4345295.23
Receiving Stream:	Tributary to Lake Waukomis
First Classified Stream and ID:	Presumed Use Lake; (L3) WBID# 7072: Lake Waukomis
USGS Basin & Sub-watershed:	102400110607

OUTFALL 009 – Drainage area consisting primarily of commercial entities with a 42" wide discharge structure.

Legal Description	Sec. 12, T51N, R34W, Platte County
UTM Coordinates:	X = 356204.78, Y = 4345883.06
Receiving Stream:	Tributary to Rush Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5042
USGS Basin & Sub-watershed:	102400110605

OUTFALL 010 – Drainage area consisting primarily of commercial entities with a 48" wide discharge structure.

Legal Description	Sec. 36, T52N, R34W, Platte County
UTM Coordinates:	X = 355343.42, Y = 4349293.49
Receiving Stream:	Tributary to Brush Creek
First Classified Stream and ID:	Brush Creek; (C) WBID# 3986
USGS Basin & Sub-watershed:	102400110603

OUTFALL 011 – Drainage area consisting primarily of residential and associated structures with a 36" wide discharge structure.

Legal Description	Sec. 30, T51N, R33W, Platte County
UTM Coordinates:	X = 358224.31, Y = 4340855.71
Receiving Stream:	Tributary to Burlington Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5042
USGS Basin & Sub-watershed:	102400110606

OUTFALL 012 – Drainage area consisting primarily of commercial entities with a 36" wide discharge structure.

Legal Description	Sec. 7, T50N, R32W, Clay County
UTM Coordinates:	X = 367714.21, Y = 4335269.87
Receiving Stream:	Tributary to Buckeye Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010301

OUTFALL 013 – Drainage area consisting primarily of industrial entities with a 42" wide discharge structure.

Legal Description	Sec. 12, T50N, R32W, Clay County
UTM Coordinates:	X = 375396.53, Y = 4335732.91
Receiving Stream:	Tributary to Shoal Creek
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010304

OUTFALL 014 – Drainage area consisting primarily of industrial entities with a 36" wide discharge structure.

Legal Description	Sec. 13, T50N, R32W, Clay County
UTM Coordinates:	X = 374867.90, Y = 4333625.34
Receiving Stream:	Tributary to Missouri River
First Classified Stream and ID:	Missouri River (P) WBID# 356 303(d)
USGS Basin & Sub-watershed:	103001010305

OUTFALL 015 – Drainage area consisting primarily of residential and associated structures with a 42" wide discharge structure.

Legal Description	Sec. 3, T50N, R33W, Clay County
UTM Coordinates:	X = 362771.98, Y = 4336660.78
Receiving Stream:	Tributary to Missouri River
First Classified Stream and ID:	Missouri River (P) WBID# 356 303(d)
USGS Basin & Sub-watershed:	102400110608

OUTFALL 016 – Drainage area consisting primarily of residential and associated structures with a 42" wide discharge structure.

Legal Description	Sec. 3, T48N, R32W, Jackson County
UTM Coordinates:	X = 375584.20, Y = 4318149.8
Receiving Stream:	Tributary to Little Blue River
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010204

OUTFALL 017 – Drainage area consisting primarily of residential and associated structures with a 60" wide discharge structure.

Legal Description	Sec. 34, T49N, R32W, Jackson County
UTM Coordinates:	X = 376087.98, Y = 4319548.14
Receiving Stream:	Tributary to Glen Lake
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010206

OUTFALL 018 – Drainage area consisting primarily of commercial entities with a 48" wide discharge structure.

Legal Description	Sec. 25, T48N, R33W, Jackson County
UTM Coordinates:	X = 369574.00, Y = 4312536.25
Receiving Stream:	Tributary to Little Blue River
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010203

OUTFALL 019 – Drainage area consisting primarily of institutional entities with a 36" wide discharge structure.

Legal Description	Sec. 4, T47N, R33W, Jackson County
UTM Coordinates:	X = 364779.25, Y = 4310058.91
Receiving Stream:	Tributary to Alex George Lake
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010104

OUTFALL 020 – Drainage area consisting primarily of commercial entities with a 36" wide discharge structure.

Legal Description	Sec. 12, T47N, R33W, Jackson County
UTM Coordinates:	X = 368997.11, Y = 4308229.61
Receiving Stream:	Tributary to Longview Lake
First Classified Stream and ID:	Presumed Use Streams; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010202

OUTFALL 021 – Drainage area consisting primarily of commercial entities with a 48" wide discharge structure.

Legal Description	Sec. 30, T47N, R32W, Jackson County
UTM Coordinates:	X = 369682.47, Y = 4302479.21
Receiving Stream:	Tributary to Oil Creek
First Classified Stream and ID:	Oil Creek; (C) WBID# 5065
USGS Basin & Sub-watershed:	103001010201

A. COVERAGE, AUTHORIZATION AND RESTRICTIONS

1. This Missouri State Operating Permit (permit) authorizes stormwater discharge from the City of Kansas City's (permittee) designated Phase I Municipal Separate Storm Sewer System (MS4) from stormwater outfalls located in or originating within the permittee's corporate boundary and owned and operated by the permittee to waters of the state.

2. The following non-stormwater discharges are authorized by this permit provided they are not identified by either the permittee or the Missouri Department of Natural Resources (Department) as contributing significant amounts of pollutants to waters of the state. The permittee shall incorporate appropriate control measures in the Stormwater Management Program if any of the non-stormwater discharges listed below are identified as significant sources of pollutants.
   a. Water line and fire hydrant flushing;
   b. Landscape irrigation;
   c. Rising ground water;
   d. Uncontaminated ground water infiltration;
   e. Uncontaminated pumped ground water;
   f. Potable water sources;
   g. Foundation drains;
   h. Air conditioning condensate;
   i. Springs;
   j. Water from crawl space pumps;
   k. Footing drains;
   l. Lawn watering;
   m. Flows from riparian habitats and wetlands;
   n. Street wash water;
   o. Emergency fire-fighting activities;
   p. Individual residential car washing;
   q. Dechlorinated residential swimming pools.

3. This permit does not authorize non-stormwater discharges except where such discharges are:
   a. In compliance with a separate NPDES permit, or
   b. Identified by and in compliance with Part A.2. of this permit.

4. This permit does not serve as coverage for facilities or activities that require a separate Missouri State Operating Permit.

5. In the event the regulated MS4 owns or operates oil water separator which is used to exclusively treat stormwater, this permit authorizes the operation of oil water separators solely for the treatment of stormwater. The oil water separators must be appropriately operated and sized per manufacturer's or engineering specifications. The specifications and operating records must be made accessible to Department staff upon request. Oil water separator sludge is considered used oil; sludge must be disposed of in accordance with 10 CSR 25-11.279.

6. This permit does not affect, remove, or replace any requirement of the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; or the Resource Conservation and Recovery Act. Determination of applicability to the above mentioned acts is the responsibility of the permittee. Additionally, this permit does not establish terms and conditions for runoff resulting from silvicultural activities listed in Section 402(l)(3)(a) of the Clean Water Act.

7. This permit does not transfer liability for a spill from the entity or entities responsible for the spill to the permittee or relieve the entity or entities responsible for a spill or the permittee from applicable federal, state, or local requirements.

B. SPECIAL CONDITIONS

1. The permittee shall implement control measures and other management practices to reduce pollutants in stormwater discharge to the Maximum Extent Practicable (MEP) from the MS4 to waters of the state for the goal of attainment with Missouri's water quality standards. The permittee shall maintain a Stormwater Management Plan (SWMP) including any implementation schedules and items listed in Part D. and Part E. of this operating permit.

2. The permittee shall implement and enforce a comprehensive Stormwater Management Program per the requirements listed in this operating permit in accordance with the federal Clean Water Act (CWA) §402(p)(3)(B)(iii), appropriate federal regulations under 40 CFR 122.26, and with the Missouri Clean Water Law §644, RSMo, and its implementing regulations under 10 CSR 20-6.200.

3. The permittee shall ensure they have adequate legal authority via established or subsequently established ordinance, contract(s), or other regulatory mechanisms consistent with federal and state regulations to provide full implementation of their Stormwater Management Program per Part D. and other terms and conditions of this operating permit.

4. The full implementation of this operating permit and the SWMP, which includes implementation of any applicable schedules developed by the permittee, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with §644.051.16, RSMo, and the CWA section 402(k). However, this permit may be reopened and modified, or alternatively revoked and reissued to ensure corrective action(s) are being implemented to reduce the discharge of pollutants to the MEP if the Department determines that the permittee is causing or creating significant impacts on Missouri's water quality. If such action is determined appropriate by the Department, a notification will be given to the permittee at a minimum of 30 days prior to the action being conducted

5. Integrated Planning: It is the intent of both the permittee and the Department that in the event the permittee utilizes Integrated Planning that this permit does not constrain the permittee's efforts to identify affordable and cost-effective solutions to address the most significant sources of pollution in the implementation of the permittee's Integrated Plan.

C. TOTAL MAXIMUM DAILY LOAD

1. The permittee shall develop a Total Maximum Daily Load (TMDL) Assumptions and Requirements Attainment Plan (ARAP) if any area of the MS4 is identified in a U.S. Environmental Protection Agency (EPA) approved or established TMDL with an applicable Wasteload Allocation (WLA). The permittee shall implement steps toward attainment of applicable WLA in accordance with 40 CFR 122.44(k)(2) and (3) as implemented through this permit. The TMDL ARAP shall be incorporated into the SWMP and include, at a minimum, the following:
   a. A process to identify potential sources of the pollutant(s), actions to be taken to address those sources within the permittee's MS4 discharging to the waterbody of concern, a prioritization of those actions, and a schedule including beginning and ending milestones by permit year. The schedule for the implementation of the TMDL ARAP is not limited to the term of this operating permit (i.e., 5 years) as attainment can take years or even multiple permit terms;
   b. Best Management Practices (BMPs) developed or designed with a purpose of reducing the pollutant(s) of concern. Each BMP shall contain a description of the BMP purpose and expected result of the BMP.
   c. Measurable goals shall be established for each BMP or group of BMPs. Each measurable goal shall contain a statement clearly indicating how it will determine the appropriateness of identified BMPs and progress toward the expected results of the BMP. Measureable goals shall be quantifiable; however, if it is not feasible to utilize a measurable goal that is quantifiable, then the permittee shall provide justification why utilizing a measurable goal is infeasible. If applicable, measurable goals shall also utilize interim and completion milestone dates, and a periodic frequency of measurement to document progress. It is recommended that interim and final milestone dates are established with a format of month and year. If the format of month and year cannot be utilized, the permittee shall ensure that schedules have the minimum format of 1st, 2nd, 3rd, 4th, and 5th year of the operating permit.
   d. An iterative process to be utilized by the permittee that determines if the BMP is ineffective, the plan to address ineffective BMPs, and the general process used to replace or revise ineffective BMPs.

2. If the permittee is subject Part C.1. of this permit, then the permittee shall draft and submit the TMDL ARAP to the Department as soon as practicable but no later than 30 months after the date EPA approves or establishes the TMDL or 30 months after the effective date of this operating permit, whichever is later. The initial TMDL ARAP is to be submitted to the Department's Water Protection Program, MS4 Coordinator at P.O. Box 176, Jefferson City, MO 65102. All other revisions are to be included in the permittee's Annual Report.

3. If the Department approves the TMDL ARAP, it will be presumed that the TMDL ARAP is affordable by the permittee. However, if the Department disapproves the TMDL ARAP and requires any additional or different controls or expenses, the Department will conduct an affordability analysis in support of the disapproval unless waived by the permittee.

4. The deadline for the TMDL ARAP may be extended by request of the permittee and with written approval by the Department.

5. If the TMDL ARAP has been submitted to the Department but has not received approval, then the permittee is not required to implement any action listed in their TMDL ARAP and shall notify the Department of this in their Annual Report.

6. If the permittee has received Department approval, the permittee shall implement their TMDL ARAP in accordance to schedules established in the TMDL ARAP. Implementation of all TMDL ARAP control measures shall be documented and retained by the permittee with the permittee's SWMP and made available to the Department or EPA upon request.

7. If the permittee has an approved TMDL ARAP, then the permittee shall provide a summary of the controls that list the BMPs, the expected result of the BMPs, how the measurable goals are utilized to document the effectiveness of the BMPs, and the status of the measurable goals in the permittee's Annual Report.

8. The permittee may demonstrate that no additional controls are needed beyond the successful implementation of the minimum control measures (MCMs) listed in Part E. of this permit, which includes modifications to BMPs or measurable goals, for the goal of attainment with the TMDL's assumptions and requirements. The demonstration is subject to Department approval. If the permittee is to provide a demonstration that no additional controls are needed, they shall contact the Water Protection Program's MS4 Coordinator to begin the process.

9. The permittee may submit an Integrated Plan as an approach for the implementation of the TMDL's assumptions and requirements. Review and rating of the portion of an Integrated Plan specific to the TMDL's assumptions and requirements is subject to the same requirements as the TMDL ARAP.

10. The permittee may revise their approved TMDL ARAP, and if revised, the permittee shall provide written notification to the Department for substantive revisions. Substantive revisions are as follows:
    a. Addition of new components, controls, or requirements to the TMDL ARAP;
    b. Replacing or modifying ineffective or unfeasible BMPs or measurable goals in accordance to the permittee's iterative process;
    c. Replacing or modifying time schedules;
    d. Modifying the iterative process; and
    e. Other rationales as determined appropriate by the permittee.

11. If the TMDL ARAP is revised in accordance with Part C.10. of this permit, then the Department shall review and rate the revised TMDL ARAP in accordance with Part C.3. of this permit.

12. Exemptions to Part C.:
    a. If the EPA approved or established TMDL indicates that this permittee does not cause or contribute to the impairment addressed by the TMDL, then the permittee is not required to develop and implement any action contained in Part C. of this permit.
    b. If the permittee is already subject to an existing TMDL and is under an existing agreement (e.g., Settlement Agreement, Abatement Order, etc.) with the Department to address the TMDL's assumption and requirements, then the permittee is not required to develop and implement any action contain in Part C. of this permit.
        i. If such an agreement exists, then the permittee shall submit the status of implementation to the Department with the Annual Report.

D. STORMWATER MANAGEMENT PROGRAM

1. The permittee shall implement and document the following terms and conditions in their Stormwater Management Plan (SWMP) for each of the Minimum Control Measures located in Part E.:
    a. BMPs developed or designed with a purpose of reducing stormwater pollution. The SWMP shall contain a description of the BMP and the purpose or expected result of the BMP;
    b. Measurable goals shall be established for each BMP or in conjunction of multiple BMPs. Each measurable goal shall contain a statement clearly indicating how it will be established to determine the appropriateness of identified BMPs and progress toward the expected results of the BMP. Measurable goals shall be quantifiable unless it is not feasible to quantify. If the measurable goal is not to be quantifiable, then the permittee shall provide justification why it is not feasible to have a quantifiable measurable goal. If applicable, measurable goals shall also utilize interim and completion milestone dates and a periodic frequency of measurement to document progress. It is recommended that interim and final milestone dates are established with a format of month and year. If the format of month and year cannot be utilized, the permittee shall ensure that schedules have the minimum format of 1st, 2nd, 3rd, 4th, and 5th year of the operating permit;
    c. The person(s) and/ or position(s) primarily responsible for the SWMP or for each minimum control measure;
    d. An iterative process to be utilized by the permittee that documents how each BMP is evaluated and subject to replacement or modification. The permittee shall apply reasonable further progress by replacing or modifying ineffective BMPs with effective BMPs.

2. The permittee's SWMP shall be reviewed and evaluated by the Department to ensure that the SWMP is implementing the terms and conditions of this permit, the applicable federal and state stormwater regulations, and Section §402(p)(3)(B)(iii) of the Clean Water Act. If the SWMP is approved by the Department, it will be presumed affordable by the permittee. If the SWMP is found unsatisfactory by the Department and requires any additional or different controls or expenses, the Department shall conduct an affordability analysis in support of the unsatisfactory rating unless waived by the permittee.

3. If the permittee determines that their existing SWMP needs to be updated to comply with the terms and conditions of this operating permit, then the permittee shall revise and submit their SWMP within one (1) year of the Effective Date of this permit. The Department shall then conduct a review and rating of the SWMP in accordance with Part D.2. of this permit.

4. The permittee shall continue implementing their existing SWMP until the permittee's revised SWMP is approved by the Department.

5. The permittee may revise their SWMP during the life of this permit. All substantive revisions shall require written notification by the permittee to the Department's MS4 Coordinator as a stand-alone notification or included in the permittee's Annual Report. Substantive revisions are as follows:
   a. Addition of new components, controls, or requirements to the Stormwater Management Program;
   b. Replacing or modifying ineffective or unfeasible BMPs or measurable goal in accordance to the permittee's iterative process;
   c. Replacing or modifying time schedules;
   d. Modifying the iterative process;
   e. The addition or removal of jurisdictional areas;
   f. Contact names per Part D.1.c. of this permit; and
   g. Other rationales as determined appropriate by the permittee.

6. If the SWMP is revised in accordance with Part D.5. of this permit, then the Department may review and rate the revised SWMP in accordance with Part D.2. of this permit.

7. The permittee shall implement the Stormwater Management Program on all areas added to their jurisdiction as expeditiously as practicable but no later than three (3) years from the addition of the new areas. If the implementation of the Stormwater Management Program will not be completed within one (1) year, then the permittee is required to submit status reports with their MS4 Annual Report.

E. MINIMUM CONTROL MEASURES (MCMs)

1. ***Public Education and Outreach of Stormwater Impacts***
   The permittee shall continue to implement a public education and outreach program to inform the public about the impacts of stormwater discharges on waterbodies and steps the public can take to reduce pollutants in stormwater runoff. As part of the SWMP, the program shall include the following, at a minimum:
   a. A description of how the public is targeted based on the specific group's potential to have significant stormwater impacts;
   b. A list of pollutants the program is developed to address, including at a minimum:
      i. Pollutants associated with the application of pesticides, herbicides, and fertilizers; and
      ii. Pollutants associated with the management and disposal of used oil and toxic materials.
   c. A description of education and outreach activities and materials specific to targeted audiences and pollutants;
   d. A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from the MS4.
   e. Opportunities for public participation with and implementation of the permittee's MS4 program, including activities such as volunteer stream and/or lake clean-up events.

2. ***Public Involvement and Participation***
   The permittee shall implement a public involvement/participation program that shall at a minimum include the following and provide a description in the SWMP:
   a. Opportunities for public involvement/participation in the development of the permittee's Stormwater Management Program. This may include a public comment period for the SWMP document, development of a stormwater committee, public meetings, and/or other opportunities provided for public participation as the permittee deems necessary.

3. ***Illicit Discharge Detection and Elimination***
   The permittee shall continue to implement and enforce a program to detect and eliminate illicit discharges, as defined in 10 CSR 20-6.200(1)(C)7, into the permittee's MS4. As part of the SWMP, the permittee's illicit discharge detection and elimination program shall include the following at a minimum to the extent allowable under state or local law:
   a. A storm sewer map showing the locations of all known constructed outfalls and the names and locations of all receiving waters of the state that receive discharges from the permittee's MS4. The permittee shall describe the source of information

they used for the map(s) and how the permittee plans to verify the outfall locations with field survey or field screening points. The permittee shall describe how the map was developed and how the map is regularly updated. The permittee shall make the map and map information available to the Department upon request;

b. A plan to prohibit through ordinance, orders, or similar means illicit discharges into the permittee's MS4 and implement appropriate enforcement procedures and actions;
c. Inspection and investigation procedures for detecting and eliminating illicit discharges;
d. A program to conduct field screening at major outfalls or field screening points with the purpose of finding and eliminating illicit discharges and illegal dumping. The program shall include the following:
   i. A description of areas or locations that will be evaluated by field screening, including a description of how locations are established;
   ii. A description of the number of locations that will be screened annually and how locations will be selected; and
   iii. A description of field screening procedures, including recording of visual observations and testing or sampling if flow is observed;
e. Procedures to prevent, minimize, contain, and respond to spills that discharge or have potential to discharge into the MS4; and
f. A description of controls to limit infiltration of seepage from municipal sanitary sewers to the permittee's MS4.

4. ***Construction Site Stormwater Runoff Control***

The permittee shall continue to implement and enforce a program to reduce pollutants in stormwater runoff to their MS4 from construction activities on land disturbances sites that disturb one or more acres or disturb less than one acre when part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project. As part of the SWMP, this program shall include the development and implementation of the following:

a. Ordinances, orders, or similar means to require entities conducting land disturbance activities in accordance with Part E.4. of this permit to implement and maintain erosion and sediment control BMPs at construction sites including sanctions designed to ensure compliance to the extent allowable under state or local law;
b. Requirements for construction site operators to control construction site waste that may cause adverse impacts to water quality, such as discarded building material, concrete truck washout, chemicals, litter, and sanitary waste;
c. Procedures for the permittee to review all construction site stormwater pollution prevention plans or site plans for potential water quality impacts;
d. Procedures for the permittee to receive and respond to public reporting of the discharge of pollutants from construction sites in coordination with the permittee's public education and outreach program;
e. Procedures for the permittee to inspect construction sites and enforce control measures, including prioritization of site inspections;
f. A plan designed to ensure compliance with the permittee's erosion and sediment control ordinances, orders, or similar means, including sanctions and enforcement mechanisms the permittee will use to ensure compliance and procedures when certain sanctions will be used. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance; and
g. A description of appropriate educational and training measures for construction site inspectors.

5. ***Post-Construction Stormwater Management in New Development and Redevelopment***

The permittee shall develop, implement, and enforce a program to address the quality of long-term stormwater runoff from new development and redevelopment projects that disturb one or more acres or disturb less than one acre when part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project. This program shall ensure that stormwater controls are in place that have been designed, developed, and implemented to minimize water quality impacts. This program, at a minimum, shall include:

a. Ordinances or other regulatory mechanisms to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law. The permittees shall document the relevant regulatory sections of their ordinance within the SWMP;
b. Strategies developed with the purpose to minimize water quality impacts, minimize the creation of stormwater pollution, and/or utilize BMPs that remove or reduce stormwater pollution that include a combination of structural and/or non-structural BMPs appropriate for the permittee's community. In developing these strategies, the permittee shall consider:
   i. The assessment of site characteristics at the beginning of the development design phase to ensure adequate planning for stormwater program compliance;
   ii. The development and implementation of a stormwater design criteria manual to contain standard sustainable site design criteria and BMP selection and design criteria to reduce water quality impacts;

iii. Buffer criteria for streams and other environmentally sensitive areas;
iv. Provisions for preservation of undisturbed natural areas, trees, and steep slopes, when feasible; and
v. The development of floodplain management controls to minimize pollution with floodplain management controls;

c. A plan to ensure adequate long-term operation and maintenance of selected BMPs, including types of agreements between the permittee and other parties (e.g., post-development landowners, regional authorities, etc.); and
d. Inspect or require the inspection of post-construction BMPs that are intended to remove or reduce pollution of stormwater and ensure that all BMPs are maintained and function effectively.

6. ***Pollution Prevention and Good Housekeeping for Municipal Operations***

The permittee shall develop and implement an operation and maintenance program for municipal operations owned or operated by the permittee. This program shall, at a minimum, include the following:

a. An employee training program to prevent or reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. The permittee shall describe any existing, available material the permittee plans to use such as those available from EPA, the state, or other organizations;
b. Maintenance BMPs, maintenance schedules, and long-term inspection procedures for structural controls to reduce floatables and other pollutants in discharges from the MS4;
c. Controls for reducing or eliminating the discharge of pollutants from street, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer station, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas the permittee operates. The permittee shall, at a minimum, conduct the following:
   i. Store and cover deicing chemicals and implement deicing practices to reduce the discharge of pollutants to the MS4;
   ii. Street sweepings or similar activities on curb and gutter streets to MEP and ensure the proper disposal of the street sweepings;
   iii. Street design, construction, and maintenance practices that reduce the discharge of pollutants to the MS4; and
   iv. Routinely clean grated inlets, roadway stormwater inlets, and catch basins;
d. Storage of all paints, solvents, petroleum products and petroleum waste products (except fuels) under the control of the permittee shall not be exposed to stormwater. Sufficient practices of spill prevention, control, and/or management shall be provided to prevent any spill 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; and
e. A plan to reduce pollutants in discharges from the permittee's MS4 associated with the application of pesticides, herbicides, and fertilizers. The plan shall include controls such as educational activities, permits, certifications and other measures determined appropriate by the permittee for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

7. ***Industrial and High Risk Runoff***

a. The permittee shall implement a program to monitor and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities regardless of ownership. The program shall include, at a minimum, the following:
   i. Identify all of the activities below that discharge into the MS4:
      1. Municipal landfills;
      2. Hazardous waste treatment, storage, and disposal facilities (i.e., Resource Conservation and Recovery Act facilities);
      3. Industries subject to reporting requirements pursuant to Title III Section 313 of the Superfund Amendments and Reauthorization Act of 1986; and
      4. Industrial facilities that the permittee determines are contributing a substantial loading of pollutants to the MS4.
   ii. Identify priorities and procedures for inspections and establishing and enforcing control measures for such discharges; and
   iii. A monitoring program for stormwater discharges associated with the facilities listed under Part E.7.a.i.1-4.
b. The permittee shall develop and maintain a list of all municipal operations that are impacted by the permittee's Operation and Maintenance program under Part E.6. The permittee shall include a list of industrial facilities that the permittee owns or operates that are subject to NPDES permits for discharges of stormwater associated with industrial activities that discharge to the permittee's MS4. The permittee shall include the permit number or a copy of the No Exposure Exemption Certification (if applicable) for each facility. NPDES permitted facilities not owned or operated by the permittee are not required to be part of the list.

8. ***Flood Mitigation Projects and Infrastructures***
   a. The permittee shall develop and implement procedures to assess the impacts on water quality in the design of all new flood mitigation projects that will be associated with the permittee's MS4. The process shall include considerations of measures that can be used to reduce and minimize the impacts on water quality, including adverse physical and hydrological changes, of the water bodies receiving stormwater discharges from the permittee's MS4;
   b. The permittee shall develop and implement an evaluation procedures for existing flood mitigation infrastructures to determine if retrofitting the infrastructure to provide additional stormwater pollutant reduction is feasible. The permittee shall establish a prioritized schedule for implementing retrofits of flood mitigation infrastructures owned and operated by the permittee that have been determined to be feasible;

9. ***Monitoring***
   a. Representative monitoring shall be conducted by the permittee on representative outfalls, internal sampling stations, or instream monitoring locations with the purpose of characterizing the quality of stormwater discharging from the permittee's MS4. The monitoring program shall include the following:
      i. Stormwater samples shall be collected from stormwater discharges from two storm events annually occurring at least one month apart;
      ii. The permittee shall conduct storm event representative sampling at a minimum of three separate locations to be described in the permittee's SWMP. The Department may allow changes to the monitoring locations upon notification to the Department by the permittee in accordance with Part D.5. of this permit;
      iii. Parameters to be sampled and analyzed or calculated shall include the following at a minimum. The Department may allow changes to the parameters upon notification by the permittee in accordance with Part D.5. of this permit:
         1. Total Suspended Solids;
         2. Specific conductivity (field);
         3. Chemical Oxygen Demand;
         4. *E. coli*;
         5. pH (field);
         6. Total Kjeldahl Nitrogen;
         7. Nitrate + Nitrite;
         8. Dissolved Phosphorus;
         9. Total Phosphorus; and
         10. The Department may require additional parameters along with sampling conditions such as locations, season of sample collection, form of precipitation, and other parameters to ensure representativeness. In the event the Department requires additional parameters to be sampled, the Department will submit an official written request at least one calendar year prior to the expiration date of this permit.
         11. Storm event data records shall be maintained of all analytical results, the date and duration (in hours) of the storm event(s) samples, rainfall measurements or estimates (in inches) of the storm event which generated the runoff that was sampled, and the duration (in hours) between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.
   b. Biological Assessments. During the life of this permit, the permittee shall conduct macroinvertebrate assessments of ten or more urban streams for a minimum of one year (fall and spring). Concurrent water quality monitoring shall also be conducted as part of the assessment. Before assessments begin, the permittee shall submit a sampling plan for Department approval. The City shall use current Department protocols for biological assessments, which are available through Department staff at the Environmental Services Program. The streams that are candidates for assessments and a rationale for the selection of streams for assessments shall be included in the SWMP. Selection rationale should reflect the comprehensive and iterative planning process as specified in 40 CFR 122.26(d)(2)(iv). Water quality monitoring shall consist of field measurement and laboratory testing. The results of the assessments shall be included in the annual report and should address identification of water quality improvements or degradation.
   c. Analysis and collection of samples shall be conducted in accordance with methods specified in 40 CFR 136. Where an approved Part 136 method does not exist, any available method may be used unless a particular method or criteria for method sections (such as sensitivity) has been specified in this permit.

F. REPORTING AND RECORDKEEPING

1. The permittee shall submit an annual report to the Department by October 28th of each year. The report shall cover the permittee's fiscal year (May 1 – April 30) and be reported the following October. Depending on permit issuance, the first report required by this permit may be partial. The report shall:
   a. Provide a list of names and contact information for staff who ensure the successful implementation for each Minimum Control Measure;
   b. Provide a general summary of each Minimum Control Measure. The summary shall include:
      i. Overall compliance with permit conditions and the Stormwater Management Program;
      ii. List of BMPs used to implement the Minimum Control Measure;
      iii. A description of assessment used to determine the appropriateness of the BMPs;
      iv. A description of the iterative process used to replace or modify any BMP or measurable goal, if applicable;
      v. Status of the Measurable Goals for each BMP or the completion date for any measurable goal completed during the reporting period;
      vi. An explanation for any measurable goal scheduled for completion during the reporting period that was not completed. Any modified goals or deadlines shall be listed;
      vii. A brief summary of stormwater activities planned for the next reporting cycle and implementation schedule, if feasible;
      viii. Any planned changes to the SWMP, which may include any changes to the minimum control measures including changes to BMPs, measurable goals, or the iterative process;
      ix. Summary of monitoring required by this permit by their Minimum Control Measure, which shall include a justification for any required monitoring that was not completed. The monitoring results shall be reported in a table format with the analytical result. The summary shall also include a general discussion of the results with respect to MEP and, if applicable, TMDL parameters; and
      x. A summary of the permittee's TMDL ARAP, if applicable.
   c. Electronic Discharge Monitoring Report (eDMR) Submission System. Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit), shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.

2. The permittee shall retain records of any monitoring information used to complete their renewal application for this operating permit, implementation of any part of this operating permit, and implementation of any part of the permittee's SWMP for a period of at least three (3) years from the date of the sample, measurement, or analysis. This period may be extended by official request from the Department at any time. Monitoring data shall include, if applicable, the below information:
   a. All calibrations and maintenance records;
   b. All original strip chart recordings for continuous monitoring instrumentation;
   c. The date, location, and time of sampling or measurement;
   d. The individual(s) who performed the sampling or measurement;
   e. The date(s) analyses were performed;
   f. The individual(s) who performed the analyses;
   g. The analytical technique or method used; and
   h. The results of such analyses.

3. The permittee shall retain records of all activities requiring recordkeeping by the SWMP, a copy of the NPDES permit, a copy of all ordinances, policies, and formal procedures for all MCMs and records of all data used to complete the renewal application for this period for a period of at least three (3) years from the date of the report or renewal application. This period may be extended by official request of the Department at any time.

4. The permittee shall retain the most recent version of their SWMP at a reasonable location accessible to the Department, including electronically.

G. APPLICATION REQUIREMENTS FOR RENEWAL OF OPERATING PERMIT

1. The permittee shall submit an application for renewal of permit at least 180 days prior to the expiration date of this permit to the Department's MS4 coordinator unless the Department allows a later deadline not to exceed the expiration of this permit. Additionally, the permittee shall provide the following information, at a minimum, in their application for renewal:
   a. Name and mailing address of the permittee;
   b. Name(s), address, telephone number, and email address of the permittee's main contact for their MS4 program, or for each MCM;
   c. General description of the permittee's activities that subject the permittee to MS4 requirements;
   d. Proposed, if any, program modifications and justification for changes to BMPs, measurable goals, or the iterative process required under the SWMP or MCMs;
   e. Proposed, if any, modification and justification for changes to activities the permittee is conducting toward attainment of applicable WLA under EPA established or approved TMDLs;
   f. Map(s) and locational data for known stormwater outfalls from the permittee's MS4 to waters of the state. Maps and locational data shall be divided into new stormwater outfalls, if applicable, and existing stormwater outfalls, and list the receiving stream;
   g. Map(s) documenting service or jurisdictional boundary of the MS4, projected changes in land use, population densities, or projected future growth;
   h. If any entity, which includes co-permittees or other governmental agencies, are implementing or conducting activities to satisfy the terms and conditions of the permit or SWMP. If applicable, the permittee shall submit:
      i. Name and mailing address of the outside entity;
      ii. Name(s), address, telephone number and email address of the person(s) conducting the activities for the outside entity or co-permittee; and
      iii. Description of what the outside entity or co-permittee is conducting in satisfaction of the permit or SWMP;
   i. The permittee proposed SWMP including TMDL implementation; and
   j. A description of any service or jurisdictional area expansion subject to the permittee's SWMP. The change in area can be documented via the map under Part G.1.g. of this permit, but must be clearly labeled.

2. If the Department creates and approves an application form for renewal for Phase I MS4s, then the permittee will complete and submit the renewal application form in satisfaction of Part G.1. of this permit. If the renewal application form for Phase I MS4s permits is not completed and approved by the Department within four years of the effective date of this permit, then the permittee is not required to use the renewal application form; however, the permittee may volunteer to use the renewal application, which will suffice for Part G. of this operating permit.

H. CERTIFICATIONS OF APPLICATIONS AND ANNUAL REPORTS

1. All renewal applications, applications to modify this operating permit, and annual reports shall be signed in accordance with 40 CFR 122.22 and 10 CSR 20-6.010(2)(B) and shall include the following 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 fines and imprisonment for knowing violations."

I. STANDARD PERMIT CONDITIONS

1. *Duty to Comply*: The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law (CWL) and the Federal CWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal.

2. It is a violation of the Missouri CWL to fail to pay required fees associated with this permit.

3. *Duty to Mitigate*: The permit holder shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

4. *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 condition requires the operation of backup or auxiliary facilities or similar systems installed by a permittee only when necessary to achieve compliance with the conditions of this permit.

5. *Advanced Notice*: The permit holder shall give advanced notice to the Department of any planned changes which may result in noncompliance with the terms and conditions of this permit.

6. *Inspection and Entry***:** The permit holder shall allow the Department or an authorized representative (including an authorized contractor as a representative to EPA or the Department) upon the presentation of credentials and other documents as may be required by law to:
   a. Enter the permit holder's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect any facility, equipment (including monitoring and control equipment), practices, or operation 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 CWA and/or Missouri's CWL, any substance or parameter at any location.

7. *Monitoring Methods*: Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless another method is required under 40 CFR subchapters N or O or unless specified in this permit or an approved Quality Assurance Project Plan.

8. *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.

9. *Permit Actions*: This permit may be modified, revoked, reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or notification of planned changes or anticipated noncompliance does not stay any term or condition of this permit.

10. *Administrative Continuation of the Permit*: If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 10 CSR 20-6.010(10)(E) and remain in force and effect. If the permittee applies for renewal at least 180 days prior to the expiration date or in accordance with any Department extension not to exceed the expiration of this permit, permittee will automatically remain covered by the continued permit until the earlier of:
    a. Reissuance or replacement of this permit, at which time the permittee shall comply with the application conditions of the new permit to maintain authorization to discharge;
    b. Notice of termination;
    c. Issuance of an alternative site-specific permit or alternative general permit for MS4 discharge; or
    d. A permit decision by the Director not to reissue this permit, at which time the permittee shall seek coverage under an alternative general or site-specific permit.

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

12. *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; and

13. *Falsification Penalties*: 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 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 ten thousand dollars, or by imprisonment for not more than six months, or by both. Second and successive convictions for violations 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 years, or both.

J. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0130516
CITY OF KANSAS CITY PHASE I LARGE
MUNICIPAL SEPARATE STORM SEWER SYSTEM

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

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 applicable regulations, rationale for the development of limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or permit) listed below. A factsheet is not an enforceable part of a permit.

This Factsheet is for a Phase I Municipal Separate Storm Sewer System (MS4).

PART I. FACILITY INFORMATION

Facility Type MS4: Industrial; Stormwater Urban stormwater Runoff
Facility SIC Code(s): 9511,
Facility NAICS Code: 924110
Application Date: February 28, 2023
Expiration Date: August 31, 2028

Facility Description:
The city of Kansas City (permittee) is the largest city in the state of Missouri and has a population of 509,297 according to the 2020 U.S. Census with an approximate land area of 314.70 mi^2, and a population density of 1,614.5 population/mi^2. The permittee owns and operates their Municipal Separate Storm Sewer System (MS4), which is a Phase I Large MS4 based on 1990 U.S. Census.

A MS4 is defined as a conveyance or system of conveyances including roads and highways with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, paved or unpaved channels, or storm drains designed and utilized for routing stormwater, which: (1) does not include any waters of the state (as defined in Missouri's Water Quality Standards [10 CSR 20-7.031] and its implementing tables), (2) is owned and operated by the permittee, (3) is not part or portion of a combined sewer system, and (4) is not part of a publicly owned treatment works. The permittee's MS4 collects and routes stormwater from industrial, commercial, and residential areas located within the permittee's municipal boundary and discharges the stormwater to waters of the state.

MS4 Outfalls:
Outfalls listed under the Facility Description in the operating permit are representative major stormwater outfalls only; however, the NPDES operating permit covers all discharges from the permittee into waters of the state. The permittee is required by the operating permit to have a list of all stormwater outfalls that discharge to waters of the state. It was determined that only representative outfalls would be listed under the actual permit's outfall pages to reduce paper usage, cost, and require the operating permit to be modified anytime changes are made to any of the outfalls.

Facility Performance History:
The Department's Clean Water Information System (MoCWIS) indicates that the Department last conducted a MS4 Phase I Audit of the Kansas City program in August of 2022. The City was issued a Letter of Warning for findings during this Audit. Department records also show the City is responding to the Audit and working with the Kansas City Regional Office and the Water Protection Program to bring the program into full compliance.

PART II. RECEIVING WATERBODY INFORMATION

The permittee's Phase I MS4 discharges stormwater into Missouri waterbodies that have designated uses in accordance with 10 CSR 20-7.031(1)(P). Below is the list of known waterbodies with designated uses that receive stormwater runoff from the permittee's Phase I MS4. The waterbodies listed below may have multiple stormwater discharges or only one stormwater outfall discharging to it.

Waterbody Name	Class	WBID	AQL
Fishing River	C	394	AQL, IRR, LWW, SCR, WBCB, HPP
Presumed Use Stream	C	5065	AQL, IRR, LWW, SCR, WBCB, HHP
Todd Creek	C	316	AQL, IRR, LWW, SCR, WBCB, HPP
Presumed Use Stream	C	5043	AQL, IRR, LWW, SCR, WBCB, HPP
Brush Creek	C	3986	AQL, IRR, LWW, SCR, WBCB, HPP
Shoal Creek	C	397	AQL, IRR, LWW, SCR, WBCB, HPP
Presumed Use Stream	C	5042	AQL, IRR, LWW, SCR, WBCB, HPP
Lake Waukomis	L3	7072	AQL, IRR, LWW, SCR, WBCB, HPP
Weatherby Lake	L3	7071	AQL, IRR, LWW, SCR, WBCA, HPP
Missouri River	P	356	IND, AQL, DWS, IRR, LWW, SCR, WBCB, HPP
Missouri River	P	226	IND, AQL, DWS, IRR, LWW, SCR, WBCB, HPP
Blue River	P	421	AQL, IRR, LWW, SCR, WBCB, HPP
Little Blue River	P	422	AQL, IRR, LWW, SCR, WBCB, HPP

Classes are representations of hydrologic flow volume or lake basin size per 10 CSR 20-7.031(1)(E).
Designated uses are described in 10 CSR 20-7.031(1)(F).
WBID: Waterbody Identification Number per 10 CSR 20-7.031(1)(Q) and (S)
HUC: Hydrologic Unit Code https://water.usgs.gov/GIS/huc.html
Water Quality Standards Search https://apps5.mo.gov/mocwis_public/waterQualityStandardsSearch.do

Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. This permit, including both the MS4 and Land Disturbance parts, applies to facilities discharging to the following water body categories:

- ✓ Missouri or Mississippi River [10 CSR 20-7.015(2)]
- ✓ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ✓ Losing Streams [10 CSR 20-7.015(4)]
- ✓ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ✓ Special Streams [10 CSR 20-7.015(6)]
- ✓ All Other Waters [10 CSR 20-7.015(8)]

EXISTING WATER QUALITY & IMPAIRMENTS

Impairments include waterbodies on the 305(b) or 303(d) list and those waterbodies or watersheds under a TMDL. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/tmdls 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. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters Water quality standards protect beneficial uses of water provided in 10 CSR 20-7.031. The 303(d) list helps state and federal agencies keep track of impaired waters not addressed by normal water pollution control programs. 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.

Any regulated MS4 identified in an EPA approved or established TMDL with an applicable Wasteload Allocation (WLA) shall implement steps toward the attainment of applicable WLAs in accordance with 40 CFR 122.44(k)(2) and (3). There are currently no WLA for Kansas City's MS4.

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ADDITIONAL FEDERAL ACTS

In accordance with 40 CFR 122.49(b) and (c) the operating permit cites the Endangered Species Act (ESA) and the National Historic Preservation Act (NHPA) and places the permittee on notice that the operating permit does not affect, remove or replace the requirements or compliance determination of these acts. It is the responsibility of the permittee to determine if activities conducted within their MS4 or stormwater discharging from their MS4 are in compliance with the ESA and NHPA. Assistance in determining applicability to ESA conditions and requirements can be found in the U.S. Fish and Wildlife Service (FWS) Endangered Species webpage, at: http://www.fws.gov/endangered/. The FWS Information for Planning and Conservation (IPaC) web-based project planning tool that streamlines the environmental review process is highly recommended: http://ecos.fws.gov/ipac/. Assistance in determining applicability to NHPA conditions and requirements can be found in the Department's State Historic Preservation Office

Section 106 Review, which is located at: https://mostateparks.com/page/84261/section-106-review. Additionally, the Advisory Council on Historic Preservation Citizen Guide to Section 106 Review, which explains the process, is located at: https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf.

In addition to the ESA and NHPA, this operating permit does not affect, replace or remove the requirements and compliance determinations with respect to substances not otherwise covered under a NPDES permit and is regulated by federal law under the Resource Conservation and Recovery Act or the Comprehensive Environmental Response, Compensation, and Liability Act. However, the permittee is required to implement a program to identify and control pollutants in stormwater discharges to the MS4 from any municipal or industrial facility that the permittee has determined is contributing a substantial pollutant load into their MS4, which includes industries subject to reporting requirements under the Superfund Amendments and Reauthorization Act (SARA). Please see the section on SARA below for justification.

ANTI-BACKSLIDING

Anti-backsliding is a provision in federal statute and regulations CWA §303(d)(4); CWA §402(o); 40 CFR 122.44(l) that requires a reissued permit to be as stringent as the previous permit with some exceptions. All renewed permits are analyzed for evidence of backsliding, this permit complies with anti-backsliding regulations. Minimum Control Measures are discussed individually in Part IV of this fact sheet.

ANTI-DEGRADATION

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. See https://dnr.mo.gov/document-search/antidegradation-implementation-procedure.

The Department has determined that the appropriate avenue forward for implementing the Anti-degradation requirements for the permittee is requiring the successful implementation of the permittee's Stormwater Management Program. The permit directs the permittees to develop and implement effective BMPs, develop and implement self-evaluating measurable goals, and develop and implement an iterative process (how BMPs are determined ineffective and the steps needed to replace or revise the BMPs). This approach is applicable to newly added jurisdictional areas of the permittee. This process ensures that the permittee applies Reasonable Further Progress, which subsequently ensures that the MS4s are reducing pollutants in stormwater runoff to the Maximum Extent Practicable (MEP). This selection and documentation of appropriate control measures will then serve as the analysis of alternatives and fulfill the requirements of the Antidegradation Rule and Implementation Procedure at 10 CSR 20-7.031(3) and 10 CSR 20-7.015(9)(A)5. The permit requires any expansion to the permittee's boundary served by their MS4 to be updated in their SWMP and is subject to the terms and conditions of the SWMP and permit. Renewal of coverage for a facility requires a review of the SWMP by the Department to assure that the selected BMPs continue to be appropriate.

APPLICATION REQUIREMENTS:

Federal regulations under 40 CFR 122.26(d) and state regulations under 10 CSR 20-6.200(5) establish application requirements for Phase I MS4s; however, these regulations were not to be required for each round of renewals, rather for the initial application to receive a Phase I MS4 operating permit. This is supported in the August 9, 1996, Federal Register Volume 61, No. 155 – Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems (Phase I Reapplication), which states, "The scope of the initial permit application requirement was comprehensive and regulated MS4s invested considerable resources to develop these applications.

The initial applications have laid the foundation for the long-term implementation of MS4 stormwater management programs. EPA believes reapplications should focus on maintenance and improvement of these programs." In addition, Phase I Reapplication states, "The MS4 application requirements at 40 CFR 122.26(d)(1) and (2) apply to the first round permit application required of large and medium MS4s. The permit application deadlines in 40 CFR 122.26(e)(3) and (4) clearly reflect the "one time" nature of the Part I and II application requirements for large and medium MS4s. EPA has not promulgated regulations applicable to reapplication for MS4s. Requirements to demonstrate adequate legal authority, perform source identification (e.g., identify major outfalls and facility inventory), characterize data, and develop a stormwater management program should have been addressed in the initial application phase. Therefore, to request the same information again, where it has already been provided and has not changed, would be needlessly redundant. Thus, as a practical matter, most first-time permit application requirements are unnecessary for purposes of second round MS4 permit applications."

In the absence of regulations that are specific to reapplications requirements for Phase I Applications, EPA gives some suggested requirements based on 40 CFR 122.21(f) as well as the allowance of flexibility of the NPDES authority to require conditions the NPDES authority deems appropriate.

BEST MANAGEMENT PRACTICES (BMPS):

"Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas." 10 CSR 20-6.200(1)(D)1.

- BMPs can be temporary or permanent, and include structural items or non-structural practices or activities including schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, information distribution, and other management practices to prevent or reduce the discharge of pollutants.
- BMPs encompass both the enforceable terms and conditions of this permit as well as particular activities and practices selected by the permittee that will be undertaken to meet the permit requirements but that are not themselves enforceable.
- A deficiency of a BMP means it was ineffective at providing the necessary protections for which it was designed.
- Corrective action describes the steps the facility took to eliminate the deficiency

For the purpose of MS4s, BMPs can be identified as structural stormwater control measures (SCM), activities, and programmatic practices, that the permittee develops or designs, and implements with the purpose of reduction stormwater pollution. The permit establishes that the permittee is to not only develop or design and implement BMPs, but that the permittee is also required to establish the BMPs they have determined are appropriate for the implementation of the specific condition or conditions under each Minimum Control Measure. The permit requires the permittee to provide a description of the BMP as well as the purpose or expected result of the BMP.

BEST PROFESSIONAL JUDGEMENT (BPJ):
BPJs are technology-based limits derived on a case-by-case basis. BPJ limits are establishes in cases where Effluent Limit Guidelines (ELGs) are not available for, or do not regulate, a particular pollutant of concern. BPJ is defined as the highest quality technical opinion developed by a permit writer after considerations of all reasonably available and pertinent data or information that forms the basis for the terms and conditions of a NPDES permit.

The authority for BPJ is contained in Section 402(a)(1) of the Clean Water Act (CWA), which authorizes the NPDES authority to issue a permit containing "such conditions as the Administrator determines necessary to carry out the provisions of this Act" prior to taking the necessary implementing actions, such as the establishment of ELGs. ELGs are national regulatory standards for wastewater discharged to surface waters and municipal sewage treatment plants. EPA issues these regulations for industrial categories, based on the performance of treatment and control technology.

Previous iterations of operating permits for the permittee followed the typical layout of Phase I operating permits based on the application requirements of 40 CFR 122.26(d) with the direction that the NPDES authority (i.e., the Department) was to draft an operating permit based on information received in the permittee's application. As noted above, this was incorrectly applied as a majority of the regulations specific to Phase I MS4s in 40 CFR 122.26(d) were to be only applied on the initial application. In contrast, when Phase II was promulgated, EPA established BMPs applicable to Phase II MS4s via the Minimum Control Measures (MCMs) under 40 CFR 122.34(b). BMPs are Technology-based Effluent Limits (TBELs), which then subjects the BMPs to BPJ case-by-case determinations.

To provide consistency between Phase I and Phase II MS4s in the State of Missouri, this permit follows the MCMs of Phase II format; however, due to requirements under 40 CFR 122.26(d) and how the permittee implements them, there are additional MCMs for Phase I. Therefore, the Phase I and II MCMs are consistently named, but not all of the conditions between Phase I and II MCMs are the same. This is due to the fact that Phase II regulations establish MCMs with some specific requirements. Phase I requirements require the permittee to create and build upon a stormwater program based on the application requirements, which can cause a Phase I to implement conditions not are not similar to the requirements under Phase II.

The approach of having Phase I MCMs appear as Phase II MCMs allows the permit writer to provide more clear requirements, which is beneficial to the permittee, and allows the permit writer to define portions of 40 CFR 122.26(d) as truly being that of an application vs. a term and condition of the permit. This approach subsequently allows both the permittee and the Department to understand the difference between the MCMs, and how compliance and non-compliance are determined.

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

The permittee is not currently under Water Protection Program enforcement action.

COVERAGE:
In accordance with 40 CFR 122.26(a)(1)(iv) and 40 CFR 122.26(a)(3)(i), the permittee is required to obtain a NPDES operating permit for the discharge of stormwater from their MS4. The permit was drafted to provide coverage for all of the permittee's stormwater discharges from their regulated MS4 into waters of the state.

METROPOLITAN NO-DISCHARGE STREAM:
Metropolitan No-Discharge Streams, per 10 CSR 20-7.031, establishes, "No water contaminant except uncontaminated cooling water, permitted stormwater discharges in compliance with permit conditions and excess wet-weather bypass discharges no interfering with

beneficial uses may be allowed until interceptors are available within two thousand feet (2,000') or a distance deemed feasible by the department, or unless construction of outfalls to alternative receiving waters not listed in Table F is deemed feasible by the department. Existing discharges include wastewater volumes up to the design capacity of existing permitted feature treatment facilities, including phased increases in design capacity approved by the department prior to the effective date of this rule. Additional facilities may be constructed to discharge to these waters only if they are intended to be interim facilities in accordance with a regional wastewater treatment plan approved by the department."

The permittee discharges stormwater from their regulated MS4 in accordance with their MS4 Phase I site-specific permit from Outfall 019, which is approximately 1.39 miles from a Metropolitan No-Discharge Stream, WBID 421 Blue River.

NON-STORMWATER DISCHARGES:
This operating permit allows for non-stormwater discharges from the permittee's MS4 if the permittee or Department determined these sources are not substantial contributors of pollutants. In accordance with 40 CFR 122.26(d)(2)(iv)(B)(1) and 10 CSR 20-6.200(4)(B)4.B.(I) the following category of non-stormwater discharges or flows are to be addressed by the permittee where such discharges are identified by the permittee as sources of pollutants to waters of the state. The permittee is the primary source of determination regarding if the below category of non-stormwater discharges or flows are sources of pollutants. The Department may make such determinations in the future if it is believed the permittee is not conducting serious determinations.

OIL/WATER SEPARATORS (OWS)
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. 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.

This permit authorizes the operation of OWS for the treatment of stormwater without the requirement to obtain a separate permit. If the OWS treats water other than precipitation which has run across the property (for example: wash water, effluent from shop drains, drips, spills, etc.) the facility must obtain an MOG14 or site specific permit to cover the discharges.

PERMIT SHIELD
Missouri statute, §644.051.16, RSMo, states "The Department shall implement permit shield provisions equivalent to the permit shield provisions implemented by the U.S. Environmental Protection Agency pursuant to the Clean Water Act, Section 402(k), 33 U.S.C. Section 1342(k), and its implementing regulations, for permits issued pursuant to chapter 644."

CWA section 402(k) states "Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of sections 1319 and 1365 of this title, with sections 1311, 1312, 1316, 1317, and 1343 of this title, except any standard imposed under section 1317 of this title for a toxic pollutant injurious to human health. Until December 31, 1974, in any case where a permit for discharge has been applied for pursuant to this section, but final administrative disposition of such application has not been made, such discharge shall not be a violation of (1) section 1311, 1316, or 1342 of this title, or (2) section 407 of this title, unless the Administrator or other plaintiff proves that final administrative disposition of such application has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For the 180-day period beginning on October 18, 1972, in the case of any point source discharging any pollutant or combination of pollutants immediately prior to such date which source is not subject to section 407 of this title, the discharge by such source shall not be a violation of this chapter if such a source applies for a permit for discharge pursuant to this section within such 180-day period."

The permittee is therefore shielded from new regulations or existing regulations that were subsequently determined appropriate. If the new or existing regulation is determined necessary for the permittee or for water quality, then the Department will work with the permittee to determine if a change to the permittee's SWMP or operating permit is appropriate.

PESTICIDE RULE:
The Department has developed a Pesticide General Permit MO-G870000 for point source discharges resulting from the application of pesticides to waters of the state. This permit has been developed as a result of federal requirements under NPDES. The general permit authorizes the discharge of pesticides that leave a residue in water when such applications are made into, over or near waters of the United States. The Department has determined that entities most likely affected by this permit include public health entities, including mosquito or other vector control districts and commercial applicators that service this sector. Others potentially affected by this permit include resource and land management entities such as public and private entities managing public land, park areas and university campuses, as well as utilities maintaining easements and right-of-ways, golf courses and other large residential developments which maintain a large grounds area. In addition, permits may be required for applications involving pesticide use for agricultural related activities when pesticides are applied to crops grown in or near a water of the United States.

STORMWATER MANAGEMENT PROGRAM REPORTING & REPORT FREQUENCY:
In accordance with 10 CSR 20-6.200(4)(B)10, Phase I MS4s are to submit an annual report by the anniversary of the date of the issuance of the permit for the system. In agreement with the permittee, the permit establishes that the annual report shall be due October 28th of each year for the reporting period of May 1st to April 30th.

The reports shall be reported electronically by the owner, operator, or the duly authorized representative of the MS4 to the Department via the eDMR system. This annual report can be used by the Department and the public to evaluate the quality and compliance of an MS4's program. A permittee may consider including additional information with the annual report to show the quality and comprehensiveness of the MS4 program. The report can be used to showcase an outstanding program.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA):
In accordance with 40 CFR 122.26(d)(2)(iv)(C) and 10 CSR 20-6.200(4)(B)4.C., the permittee is required to provide a description of a program to monitor and control pollutants in stormwater discharges to the MS4 from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of SARA.

WATER QUALITY STANDARDS:
Under the CWA section 402(p), the U.S. Congress established two different standards for the regulation of stormwater discharges, which one was for industrial activities and the other for municipal stormwater discharges from MS4s. Stormwater discharges associated with industrial activities are required to comply with NPDES permits containing technology-based effluent limitations or more stringent water quality based effluent limitations as set forth in CWA section 301. However, in contrast, stormwater discharges from MS4s are to be regulated by permit that require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP).

The MEP language contained in the CWA section 402(p)(3)(B)(iii) represents a different technology-based standard which requires a governmental entity (e.g., municipality) to pursue sound pollutant control techniques that are both technically and economically feasible. More importantly, MEP and the CWA do not prescribe water quality-based requirements for municipal stormwater. Water quality-based requirements differ from technology-based requirements, in that water quality-based requirements are set on ambient water quality of receiving water body and applicable water quality standards; however, technology-based standards focus upon the water quality achievable by a particular or comprehensive plan of pollution control measures or technologies.

To say that water quality does not apply to MS4s is incorrect due to the fact that if MS4 is subject to a TMDL, the permittee can be required to address that TMDL using BMPs under an iterative, adaptive management approach to implementation. This is not to be an indication that numeric limitation(s) based on a Wasteload Allocation are applicable to a MS4 permittee upon subjection to a TMDL.

303(d) LIST, TOTAL MAXIMUM DAILY LOAD (TMDL)
Section 303(d) of the CWA requires that each state identify waters that are not meeting water quality standards. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) List helps state and federal agencies keep track of waters that are impaired but not addressed by typical water pollution control programs. Federal regulations require permitting authorities to develop TMDLs to address impaired waters listed per Section 303(d) of the CWA. A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is impaired.

The following table includes impaired waters within the MS4 boundary that require a TMDL. Prior to the issuance of this permit, no TMDLs have been completed that include MS4 wasteload allocations. The operating permit only requires action from the permittee when the receiving stream has an approved or established TMDL. However, the operating permit does not remove any agreement, consent decree, or other legally binding documents that may have been required of the permittee.

Impaired Waterbody Name	Pollutant	Corresponding Representative Outfall	Source (DNR records)
Missouri River (WBID 226)	Escherichia coli	015, outfall is ~ 1.55 miles from impaired waterbody	Municipal point source discharges, Nonpoint discharges.
Missouri River (WBID 356)	Escherichia coli	012, outfall is ~ 1.39 miles from impaired waterbody	Municipal point source discharges, Nonpoint discharges.
Weatherby Lake (WBID 7071)	Total Nitrogen, Chlorophyll-a; Mercury in Fish Tissue; Total Phosphorus	009, outfall is ~ 0.21 miles from impaired waterbody	Urban runoff/storm sewers and Atmospheric Deposition
Line Creek (WBID 3575)	Escherichia coli	008, outfall is ~ 1.84 miles from impaired waterbody.	Urban runoff/storm sewer

PART IV. STORMWATER MANAGEMENT PROGRAM

STORMWATER MANAGEMENT PROGRAM AND PLAN:
The Stormwater Management Program is a comprehensive and documented program to manage the quality of stormwater discharges from the MS4. The Stormwater Management Plan (SWMP) is the document explaining the implementation of the Stormwater Management Program describing a schedule of MS4 program activities including prohibitions of practices, implementation of required practices, development of standards for urban growth, maintenance procedures, education, trainings, inspections and other management practices to prevent or reduce the pollution of waters of the state.

This permit in accordance with 10 CSR 20-6.200 and 40 CFR Parts 9, 122, 123 and 124 requires the permittee to develop and implement a SWMP. The SWMP also includes, but is not limited to, BMPs, pertinent local regulations, policies, procedures, interim milestones, measurable goals, measures of success, responsible persons/positions for each of the measurable goals, and any applicable TMDL assumptions and requirements.

Unlike other traditional point sources that utilize treatment facilities, attainment of the WLA is to be conducted via "*the iterative BMP process*." Requiring any condition for the attainment of water quality standards in addition to the MCMs is going beyond MEP but the process for attainment of the WLA is still achieved with BMPs using the iterative process of establishing BMPs, evaluating the BMPs, and refocusing on BMPs.

However, just because a WLA for any given pollutant(s) of concern (POC) has been established in a TMDL for a MS4, additional BMPs or modifications to BMPs for the MCMs should not be required as a trigger action. Rather, the MS4 permittee subject to an effective and approved TMDL should first make a determination if the implementation of their MCMs is adequately meeting the requirements and assumptions of the TMDL. As noted in 64 FR No. 235, "*At this time, EPA determines that water quality-based controls, implemented through the iterative process today are appropriate for the control of such pollutants and will result in reasonable further progress towards the attainment of water quality standards*." While potentially rare this does indicate that no further action may be necessary to implement the requirements and assumptions of the TMDL as the MS4 community may, through successful implementation to the MEP for each of the MCMs, have already demonstrated "*reasonable further progress*." This, rightfully so, places the burden of support on the MS4 community; however, in order for the MS4 community to continue operating only under the six MCMs, the determination of beneficial use re-attainment must be reviewed and timely approved by applicable program staff (i.e., the MS4 Program and Watershed Protection Section staff).

If the requirements and assumptions of the TMDL are not being met, then the MS4 will need to, at a minimum, develop BMPs that target the given POC with the goal or design for the reduction of the pollutant. Due to the nature of stormwater controls via the iterative process, subsequent determinations can and should be made by the MS4 community to determine if "*reasonable further progress*" has resulted in the attainment of the WLA.

In addition to the initial determination or additional BMPs as required in the MS4 general permit, integrated planning actions may be considered as actions taken to specifically restore a waterbody's beneficial uses. Regardless, if the MS4 permittee uses integrated planning or BMPs design to reduce pollutants, other factors need to be considered in accordance with 64 FR No. 235, which states, "*If the permitting authority (rather than the regulated small MS4 operator) needs to impose additional or more specific measures to protect water quality, then that action will most likely be the result of an assessment based on a TMDL or equivalent analysis that determines sources and allocations of pollutant(s) of concern. EPA believes that the small MS4's additional requirements, if any, should be guided by its equitable share based on a variety of considerations, such as cost effectiveness, proportionate contribution of pollutants, and ability to reasonably achieve Wasteload reductions. Narrative effluent limitations in the form of BMPs may still be the best means of achieving those reductions.*"

In addition to the above, the TMDL portion of the permit (Part III) requires the development and implementation of a TMDL Assumption and Requirement Attainment Plan (ARAP). While the TMDL ARAP is not a Schedule of Compliance actions and schedules established in the TMDL ARAP will be subjected to the federal regulations on Schedules of Compliance [40 CFR 122.47]. Specifically if the development and implementation of the TMDL ARAP is to be conducted in a period of time extending one calendar year, then the permittee will be required to report annually for either the status of the development of the plan or for the implementation of the plan based on 40 CFR 122.47(a)(3)(ii).

The time period allowed for development of the TMDL ARAP (i.e., as soon as practicable not exceeding 30 months), the Department has determined the 30 month time period is appropriate as it allows the permittee the necessary time and flexibility that is needed to ultimately achieve attainment with the TMDLs assumptions and requirements. The Department has experience in the facilitation of an adaptive SWMP, along with EPA Region 7, with a MS4 community that addressed the assumption and requirements of an applicable TMDL. The time period to develop the adaptive SWMP took more than 30 months, but the assumptions and requirements of the TMDL were more complex than other straight forward TMDLs. The 30 month maximum time period allows the permittee to determine or develop appropriate BMPs, measurable goals, funding sources, local votes, strategic planning, opportunity to engage interested parties and stakeholders, etc… However, it would be naïve to believe that all regulated MS4s could develop a plan in

30 months, which is why the permit also indicates that the permittee can request an extension to the 30 months. Permittees seeking approval of the extension will need to provide appropriate justification of why the extension is needed, a revised time schedule of compliance, and reason for failing to meet the 30 month maximum time; however, the allowance of extending the time period beyond 30 months is not guaranteed.

MAXIMUM EXTENT PRACTICABLE (MEP) STANDARD:
Prior to 1987, municipal stormwater was subject to the same controls as other point sources like industrial and domestic discharges, which was section 301(b) of the CWA. However, in 1987, "Congress retained the existing, stricter controls for industrial stormwater discharges but prescribed new controls for municipal stormwater discharges," *NRDC v. EPA, 966 f.2D 1292, 9th Cir. 1992 (NRDC v. EPA)*. This "new control" was established in section 402(p)(3)(B)(iii) of the CWA, which states, "*Permits for discharges from municipal storm sewers – shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, designs and engineering methods, and such other provisions as the Administrator or State determines appropriate for the controls of such pollutants*."

The argument for "new controls" contained in the case of NRDC v. EPA was subsequently supported in the case of *Defenders of Wildlife v. Browner*, in which it was concluded that section 402(p)(3)(B) of the CWA "replaces" the requirements of 301(b) of the CWA with the MEP standard for MS4 discharges, and that it creates a "lesser standard" than section 301(b) of the CWA establishes on other types of discharges. Consequently, MEP is a technology-based standard established by Congress in Section 402(p)(3)(B)(iii) of the CWA.

For the purposes of MS4 permitting, MEP is defined as, "an iterative approach whereby the permittee will implement management measures, including structural and non-structural BMPs. MEP is a permittee-specific determination guided by the following factors: community financial capability and the need for reasonable rate/funding increases, weighing program-wide requirements against site-specific MS4 improvements, MS4 impacts to receiving waters, local priorities, watershed and/or integrated planning, MS4 size, climate, implementation schedules, hydrology, topography, geology, and MS4 capacity to perform operation and maintenance." Compliance with the requirements of the applicable permit and any enforceable document developed to implement the applicable permit (such as the permittee's Stormwater Management Plan) will satisfy the MEP standard.

MINIMUM CONTROL MEASURES (MCMS):
In accordance with 40 CFR 122.26(d)(2)(iv) and 10 CSR 20-6.200(4)(B)4, the permittee is to implement a set of programs and plans for the duration of the permit that reduces pollutants to the MEP. As noted above under the rational for BPJ, the management program under 40 CFR 122.26(d)(2)(iv) and 10 CSR 20-6.200(4)(B)4 have been established with the approach and format of 40 CFR 122.34(b). Additionally, the below MCMs are implemented and built upon through the permittee's stormwater program. Below is a description of each of the MCMs:

The terms and conditions of the permit were determined appropriate in accordance with 40 CFR 122.26(d)(2)(iv) and 10 CSR 20-6.200(4)(A), and via BPJ from 40 CFR 122.34(b)(1) for Public Education and Outreach; 40 CFR 122.34(b)(2) for Public Participation and Involvement; 40 CFR 122.34(b)(3) for Illicit Discharge Detection and Elimination; 40 CFR 122.34(b)(4) for Construction Site Stormwater Runoff Control; 40 CFR 122.34(b)(5) for Post-Construction Stormwater Management in New Development and Redevelopment; and 40 CFR 122.34(b)(6) for Pollution Prevention and Good Housekeeping for Municipal Operations.
In addition, to the listed six common MCMs typically reserved for Phase II, the permittee implements three additional MCMs. MCM #7 – Industrial and High Risk Runoff is in accordance with 40 CFR 122.26(d)(2)(iv)(C)(1) and (2). MCM #8 – Flood Control Projects is in accordance with 40 CFR 122.26(d)(2)(A)(4). MCM #9 – Monitoring is in accordance with 40 CFR 122.26(d)(2)(iv)(iii)(A) and the Biological Assessment is based on the previous operating permit and BPJ. The state regulations were not included above as they are identical to federal regulations.

For MCMs 1 – 6, there has been significant guidance or similar document written to assist regulated MS4s (Phase II) on the successful implementation of the programs; however, for the MCMs 7, 8, and 9 there is very little guidance or documentation.

MCM 1 – PUBLIC EDUCATION AND OUTREACH OF STORMWATER IMPACTS:
The permit requires the permittee to maintain a public education and outreach program to inform the public about the impacts of stormwater discharges on waterbodies and steps the public can take to reduce pollutants in stormwater runoff. Implementation of this MCM is important as an informed public community is critical for the success of a stormwater management plan. An informed public provides greater support for the permittee stormwater management program when the public has a greater understanding of the causes of urban stormwater pollution and how each individual can take steps to reduce stormwater pollution at its source. Additionally, an informed public leads to increased compliance as they become aware of the responsibilities of the permittee, what is not allowable, and volunteerism. Public involvement provides broader public support, can shorten implementation schedules, can be an economic benefit (volunteers are little to no cost), and can provide an important cross-connection with other MCMs as well as other community and governmental programs. For more information on MCM 1, please visit: https://www3.epa.gov/npdes/pubs/fact2-3.pdf

MCM 2 – PUBLIC INVOLVEMENT AND PARTICIPATION:
The permit requires the permittee to maintain a public involvement and participation program. The implementation of this MCM is important because the public can provide input and assistance that may otherwise be overlooked by the permittee. For more information on MCM 2, please visit: https://www3.epa.gov/npdes/pubs/fact2-4.pdf

Previous versions of the permit included public involvement in the form of volunteerism in this second MCM. This language has been moved to the first MCM to reduce confusion of the overlapping language, and to be more consistent with the Phase II, and other Phase I MS4 permits in Missouri.

MCM 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION:
The permit requires the permittee to implement and enforce a program that detects and eliminates illicit discharges to their MS4. One of the first parts of this MCM is the requirement of a storm sewer map. This MCM is important because discharges from MS4s often include wastes and wastewater from other non-stormwater sources. Studies have provide data that support there is real potential for almost ½ of the discharge from a MS4 is not directly attributable to precipitation runoff with a significant percentage of the discharge coming from illicit discharges. For more information on MCM 3, please visit: https://www3.epa.gov/npdes/pubs/fact2-5.pdf

MCM 4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL:
The permit requires the permittee to implement and enforce their program to reduce pollutants in stormwater runoff to their MS4 from construction activities on land disturbance permits. This is important due to polluted stormwater runoff from construction sites often flows to a MS4 and then discharges into a local body of water. One of the major pollutants of construction site stormwater is sediment, which is one of the most widespread pollutants affecting assessed rivers and streams, second only to pathogens. Sedimentation (as of 2005) impairs over 85,000 river and streams. To learn more about MCM 4, please visit: https://www3.epa.gov/npdes/pubs/fact2-6.pdf

The term "Operator" was replaced with "inspectors" for the requirement of appropriate education and training measures. This appropriately reflects on-site responsibilities, and is more consistent with current construction site requirements in both the Missouri permit and the EPA permit. Inspectors for construction sites are the primary observers, communicators and enforcers rather than the 'operators' which can be a term used for different roles on a site.

MCM 5 – POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT:
The permit requires the permittee to implement and enforce their program to reduce pollutants in stormwater runoff from new development and redevelopment projects. This MCM is important because runoff from areas subject to new development or redevelopment has been shown to significantly affect receiving bodies of water. There are generally two forms of impacts from post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in stormwater. As runoff flows over arears altered by development, it will pick up sediment and chemicals, which become suspended in the runoff and are carried to the receiving water. The second kind of post-construction runoff impacts occur by the increase of water delivered to receiving water bodies from storm events via increased impervious surfaces, which affects the natural cycle of the stream, ecology of the stream, streambank scouring and downstream flooding. To learn more about MCM 5, please visit: https://www3.epa.gov/npdes/pubs/fact2-7.pdf

MCM 6 – POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS:
The permit requires the permittee to implement an operation and maintenance program for municipal operations owned and operated by the permittee. This MCM is important because it requires the permittee to examine and subsequently alter their own actions to help ensure a reduction in pollutant sources that comes from streets, parking lots, open spaces, and storage and vehicle maintenance areas. To learn more about MCM 6, please visit: https://www3.epa.gov/npdes/pubs/fact2-8.pdf

MCM 7 – INDUSTRIAL AND HIGH RISK RUNOFF:
The permit requires the permittee to implement a program to monitor and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities regardless of ownership. The purpose of this MCM is to identify and control pollutants that are most at risk of discharging significant amounts of pollutants to the permittee's MS4. This program can complement the permittee's Illicit Discharge Detection and Elimination program (i.e., MCM #3).

The permittee's program, for the successful implementation of this program, needs to include or provide directions/links on how to obtain the list or inventory of industries that have been determined to be high-risk industrial sources. Additionally, the stormwater program needs to include (or how to obtain) the criteria the permittee uses to identify high-risk industries and include their specific criteria for condition 7.a.i.4. under this MCM.

The program needs to also include the scheduled/frequency at which inspections of these industries occur as well as how they prioritize the inspections. The program should also include the procedures the permittee uses during the inspection, which can be easily supplied with the inspection form used by the permittee (or how to obtain the inspection form). Finally, the permittee's program should also include the monitoring program, what is being monitored, and why it is being monitored.

MCM 7 also requires the permittee to develop and maintain a list of all municipal operations that are impacted by the permittee's Operation and Maintenance manual. This condition is typically located under MCM #6, but at the request of the permittee it has been placed into MCM #7. For more information on the Industrial and High Risk program, please use the link below for the MS4 Improvement Guide, Chapter 7, page 85: https://www3.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf

MCM 8 – FLOOD MITIGATION PROJECTS AND DEVICES:
Stormwater management, as the permittee is well aware of, is a multi-objective approach dealing with the changes in stormwater characteristics, which accompany urbanization. Citizens, local officials, and other persons are most concerned about whether stormwater is in their yard, home, or businesses (i.e., loss of life and property) and not whether the stormwater is polluted. The conditions under MCM 8 are not to impede flood risk management as it is in the best interest of the permittee to ensure that flood mitigation measures (new and retrofits) operate as designed, but to ensure that while the permittee's flood risk management program is functioning as designed, that the permittee consider impacts on water quality in the design of all new flood mitigation projects and to evaluate the existing flood mitigation devices. For this condition, flood mitigation refers to all methods used to reduce or prevent the detrimental effects of flood waters.

The permittee's SWMP will need to describe how the permittee takes water quality impacts into considerations for new and retrofit flood control projects. The considerations will also need to discuss how the permittee minimizes adverse physical and hydrological changes of the receiving water body. For more information on the Flood Control Projects and Devices program, please use the link below for the MS4 Improvement Guide, Chapter 6, page 81: https://www3.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf

Language was updated in the permit renewal to reflect proper terms for the work and projects that are impacted by this MCM.

MCM 9 – MONITORING:
The permit requires the permittee to implement a monitoring program for representative outfalls, internal sampling stations, or instream monitoring locations. The purpose of this program is to characterize the quality of stormwater discharging from the permittee's MS4; however, not to determine if the permittee is in compliance with Missouri's WQS. Rather, the monitoring program will assist the permittee in the evaluation of the overall effectiveness of their stormwater program along with progress and meeting their measurable goals and the iterative process. Without the assessment of their program, which includes monitoring, the permittee will not have a clear picture if their program is removing stormwater pollutants; the permittee will not know with any certainty if any part of their program needs to be modified outside of the self-evaluation and iterative process. Establishing a comprehensive monitoring program will enable the permittee to better track the progress of their SWMP and reduction of stormwater pollution.

A variety of ambient monitoring programs can be used to evaluate the impacts of stormwater discharges. This can include water column monitoring, biological monitoring, or sediment monitoring. As recognized in 40 CFR Parts 122, 123, and 124, Supplemental Information, Part VI.H.2.b.6.c.; stormwater discharges are intermittent and represent relatively short-term, shock loadings to receiving waters. Pollutants associated with stormwater discharge become associated with bottom sediments, may persist for long periods of time, and exert adverse impacts on benthic organisms. Therefore, sediment and biological community assessment techniques are appropriate methods to assess cumulative environmental effects of stormwater discharges to receiving waters. In particular, sediment and biological assessment techniques are excellent tools to help determine "hot spots" where stormwater BMP projects could be designed and implemented or locations where evaluation of the effectiveness of BMPs could be conducted. The overall strategy should prioritize stormwater pollution reduction and the documentation of reasonable further progress towards improvement of the MS4 system.

In accordance with capturing the details of the SWMP (per 40 CFR 122.48), the permittee shall consult with the Department during the program development concerning the rationale for stream selection, sampling location placement, and biological methods to assess water quality improvements. Annual reports for Phase I MS4 SWMPs are required in 40 CFR 122.42(c)(7). These annual reports shall include identification of water quality impacts, improvements, or degradation attributed to the MS4 system. If the nature of urban streams do not allow for effective biological assessment concerning MEP water quality improvements as the result of MS4 BMPs; future annual reports should provide data analysis as documentation for future modifications or adjustments to assessment methods.

This renewal reduced the number of stormwater samples to be collected from discharges annually by one storm event, and the location number by three. The City has had a monitoring program since their first MS4 permit in 1998. Over the years, the City has made improvements to the program implementation by upgrading monitoring devices, providing better training for field crew, and using sampling locations for better characterization of stormwater runoff quality. However, the data results derived from this program offers little value to the City's overall efforts to prevent, reduce and minimize stormwater pollution.

The purpose of a monitoring program is to characterize stormwater runoff quality for three primary types of urban land uses (residential, commercial and industrial). Stormwater runoff can be heavily influenced by incidental releases within the drainage area of each sampling outfall, making the data not representative of the land use intended for monitoring. To better characterize its runoff quality, the City uses sampling locations as evenly geographically distributed as possible, which means long driving distances between sites due to urban sprawl. The Kansas City stormwater management program is mostly intended to be implemented city-wide. With

the relatively sparse population and urban footprints, BMP effort may not generate a dramatic impact on stormwater quality as a more densely populated community would see. Also the City's stormwater BMPs are applied where needed, and the stormwater monitoring locations are selected considering various factors including but not limited to, land uses within drainage areas, size of the monitoring outfalls, safety of the access to the sampling locations etc. Impacts from most BMPs are highly unlikely captured by the six outfall locations.

These factors have led to both the monitoring frequency and the number of monitoring locations reduced. The downsizing of such a program has, since 2013, been practiced by City of Oklahoma City, Oklahoma Turnpike Authority and Oklahoma Department of Transportation as three co-permittees for the Phase 1 MS 4 Permit #OKS000101.

Changes to the parameters include the removal of biochemical oxygen demand. There is a correlation between the two parameters: biochemical oxygen demand and chemical oxygen demand. In the context of stormwater runoff, the information of the chemical oxygen demand carries sufficient general indication for stormwater runoff quality and BMP effectiveness. Additional information of the biochemical oxygen demand offers no additional benefits. The parameter for oil and grease was also removed. This parameter has a very low detection frequency. Over the last three years, the detection frequency is less than 18% per permit year. Even when detected, the value is mostly lower than 10 mg/L, the criteria for Designated Uses in the State's 10 CSR 20-7.031 (1/29/22).

To replace the loss of one storm event sampling and three location, the requirements for the biological assessments increase from two streams to ten. Within the City limits, there are 35 HUC 12 streams. The City has historically included multiple streams to cover as much as areas as financially feasible to capture the stream information. The purpose is to make the data from this compliance program meaningful to guide the City's protection of local environmental resources.

Biological stream monitoring is supported in 40 CFR Parts 122, 123, and 124, Supplemental Information, Part VI.H.2.b.6.b. The Environmental Protection Agency states: "Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit. Permit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable and complex discharges." Biological monitoring has been incorporated for this purpose in the City of Kansas City Phase I MS4 permit since 1998.

MEASURABLE GOALS:

Measurable goals are designed objectives or goals that quantify the progress of program implementation and performance of BMPs. They are objective markers or milestones that the permittee uses to track the progress and effectiveness of BMPs in reducing pollutants to the MEP. At a minimum, measurable goal should contain descriptions of actions that will be taken to implement each BMP, what is anticipated to be achieved by each goal, and the frequency and dates for such actions to be taken. BMPs and measurable goals are the mechanisms that are used to establish a clear and specific baseline against which future progress at reducing pollutants to the MEP can be measured.

There are a number of different ways the permittee can establish measurable goals. It is recommended that the below categories are used when developing goals:

- **Tracking implementation over time** – Where a BMP is continually implemented over the permit term, a measurable goal can be developed to track how often, or where, this BMP is implemented.
- **Measuring progress in implementing the BMP** – Some BMPS are developed over time, and a measurable goal can be used to track this progress until the BMP implementation is completed.
- **Tracking total numbers of BMPs implemented** – Measurable goals can be used to track BMP implementation numerically (e.g., the number of wet detention basins in place or the number of people changing their behavior due to the receipt of educational materials).
- **Tracking program/BMP effectiveness** – Measurable goals can be developed to evaluate BMP effectiveness, for example, by evaluating a structural BMP's effectiveness at reducing pollutant loading, or evaluating a public education campaign's effectiveness at reaching and informing the target audience to determine whether it reduces pollutants to the MEP. A measurable goal can also be a BMP design objective or performance standard.
- **Tracking environmental improvement** – The ultimate goal of the NPDES stormwater program is environmental improvement, which can be a measurable goal. Achievement of environmental improvement can be assessed and documented by ascertaining whether state water quality standards are being attained, or by tracking trends or improvements in water quality (chemical, physical, and biological) and other indicators, such as the hydraulic or habitat condition of the waterbody or watershed.

Additionally, it is recommended that measurable goals include, where appropriate, the following items:

- The activity, or BMP, to be completed;
- A schedule or date of completion; and
- A quantifiable target to measure progress toward achieving the activity or BMP.

Measurable goals that include these items (not necessarily all three) are easy quantifiable, which leads to being easily tracked, and ultimately leading to a clear demonstration of reducing pollutants to the MEP. In order to help in the selection of measurable goals that will work for the co-permittee, it is recommended that the below criteria be used in selecting measurable goals:

- **Consider the objective for each minimum measure** – BMPs should work toward one or more common objectives related to stormwater quality improvement and reducing pollutants to the MEP. Objectives should be based on what is known about existing pollutant sources and problems in the watershed and what is required by the minimum measure.
- **Review the programs that are already in place for each minimum measure** – Use a self-audit/self-analysis. Coordination with other agencies, non-profit groups, citizen groups, etc. to identify existing initiatives that can be used as part of the stormwater management program.
- **Corresponding BMP –** BMPs that can be utilized for more than one MCM and work toward meeting each minimum measure. These BMPs should address the minimum measures objective identified above and meet the regulatory requirement in the minimum measure. Likewise, when a BMP can be utilized for more than one MCM, the measurable goal can also be used on more than one minimum measure.
- **Milestones for implementation –** Measurable goals should include a timeframe and a quantity to measure, if possible. To assist in this, it is beneficial to consider the following questions:
    - When will BMP be implemented?
    - What and when can institutional, funding, and legal issues, if any, be resolved before implementation can occur?
    - How will progress of implementation be tracked? (Spreadsheets or databases are very useful in tracking progress.)
    - How can the BMP be measured to demonstrate pollutants are being reduced to the MEP? Changes in behavior, number of BMPs implemented, or documented improvements in water quality are results that can demonstrate this.
- **Evaluation and Effectiveness of each BMP** – It is also beneficial to ascertain what effects individual and collective BMPs have on water quality and associated indicators. Instream monitoring, such as physical, chemical, and biological monitoring is ideal because it allows the permittee to determine if the BMP is improving water quality resulting from management efforts. Intermediate goals can provide documentation of progress toward the measurable goal. Ultimately, the evaluation method that is used by the MS4 permit holder for each BMP should lead to a determination of the environmental benefits of each minimum measure and overall effectiveness of the SWMP in reducing pollutants to the MEP.

STORMWATER MANAGEMENT PROGRAM ORDINANCES:

In accordance with 40 CFR 122.26(d)(2)(i), the permittee is required to have legal authority established by statute, ordinance, or series of contracts to control the contribution of pollutants to their MS4 from stormwater discharges associated with industrial activity and the quality of stormwater discharged from industrial sites, prohibit illicit discharges to the MS4, control the discharge of storm sewer spills, dumping or disposal of materials other than stormwater, require compliance with conditions of their ordinances, permits, contracts or orders, and carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the MS4.

In accordance with 40 CFR 122.26(d)(iv)(D) and 40 CFR 122.26(d)(2)(iv)(A)(2), the permittee must address construction site stormwater runoff control to require erosion and sediment controls at construction sites, as well as sanctions designed to ensure compliance; and address new development and significant redevelopment in their Stormwater Management Program through controls to reduce pollutants in stormwater discharges after construction is completed

ITERATIVE PROCESS:

The iterative process is a documented process consisting of action items and analysis that is to be conducted by the permittee to ensure that BMPs are effective and that the permittee is meeting the MEP standard. The process starts with the evaluation of a BMP with its designated measurable goal, which is the reason quantifiable measurable goals greatly assist in the iterative process. If the BMP is found effective, then the permittee with regards to the BMP continues as normal until the next round of evaluation. If the BMP is found to be ineffective, then the permittee is required to conduct analysis to determine if the ineffective BMP is truly ineffective or if the measurable goal was ill-chosen or unattainable due to no fault of the BMP.

If the measurable goal was ill-chosen or unattainable, then the permittee would need to conduct analysis to determine a more appropriate measurable goal, preferably quantifiable. If the measurable goal wasn't ill-chosen or unattainable, then the permittee is to conduct analysis, research, or review to determine a replacement BMP that is to be effective at reaching the existing measurable goal. However, if the replacement BMP requires a new measurable goal, preferably quantifiable, then it is advantageous for the permittee to develop an appropriate measurable goal for the BMP. The replacement of the ineffective BMP with an effective BMP provides the permittee with reasonable further progress. This process should occur as an annual evaluation; however, it would be naïve to believe that all BMPs can be evaluated annually. Therefore, the operating permit requires that BMPs be evaluated every 5 years (i.e., the life of the permit).

PART V. ADMINISTRATIVE REQUIREMENTS

COST ANALYSIS FOR COMPLIANCE:
The operating permit for the permittee establishes the minimum requirements to ensure compliance with applicable federal and state rules and regulations for their regulated Phase I MS4. The operating permit requires the permittee to successfully implement their Stormwater Management Program based on minimum control measures to ensure for MEP. The permit requires the permittee to submit their BMPs, measurable goals, and iterative process for implementation of the minimum control measures, which will be deemed affordable by the Department unless the permittee indicates that the terms and conditions of the operating permit are not affordable. Upon notification of that the terms and conditions of the operating permit are not affordable, the Department will conduct an official Cost Analysis.

If the Department requires changes to the Stormwater Management Program for any situation, the Department will conduct a Cost Analysis unless waived by the permittee.

PUBLIC NOTICE:
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.

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

The public notice of this operating permit was held July 21, 2023, through August 21, 2023. No comments were received.

DATE OF FACT SHEET: JUNE 22, 2023

COMPLETED BY:
SARAH WRIGHT, STORMWATER COORDINATOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION – STORMWATER AND CERTIFICATION UNIT
(573) 526-1139
Sarah.wright@dnr.mo.gov, MS4@dnr.mo.gov

KANSAS CITY MISSOURI

KC WATER

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Feb 28, 2023

Sara Wright
Land Disturbance & MS4 Permit Coordinator
Operating Permits, Stormwater and Certification Unit
Water Protection Program
Missouri Department of Natural Resources
Jefferson City, MO 65102-0176

RE: Renewal Application for Kansas City MO MS4 Permit MO-0130516

Dear Ms. Wright,

The City of Kansas City MO is respectfully submitting its application to Missouri Department of Natural Resources for the renewal of the MS4 Permit MO-0130516. The current permit became effective on September 1, 2018 and will expire on August 31, 2023. The renewal application is for the 5-year permit term subsequent to the expiration date.

The City's application for permit renewal contains three (3) parts:

Part I. The information that is required by the current permit for permit renewal application, Part G. APPLICATION REQUIREMENTS FOR RENEWAL OF OPERATING PERMIT. The required information is shown in the same sequence as listed in Part G.

Part II. KCMO proposed MS4 permit language, with all the markups to track changes from the current permit, as well as the notes to justify the changes.

Part III. Attachments – Maps of outfalls, future land uses and population densities.

Please let us know if you have questions or need further details. We appreciate the opportunity to present our perspectives. Thank you for your guidance through this process.

Sincerely,

DocuSigned by:
BB64E8BC2FE1476...

Wes Minder
Assistant City Manager/Director
Water Services Department
4800 E 63rd St.
Kansas City, MO 64130
(816) 513-0504
Wes.Minder@kcmo.org

cc: Andy Shively, Deputy Director, Andy.Shively@kcmo.org, (816) 513-0304
Jing Tao, Environmental Manager, Jing.Tao@kcmo.org, (816) 513-0371
Nicole Rowlette, Assistant City Attorney, Nicole.Rowlette@kcmo.org, (816) 513-3148

Part I. The information as required by the current permit, Part G. APPLICATION REQUIREMENTS FOR RENEWAL OF OPERATING PERMIT. The required information is shown in the same sequence as listed in Part G.

a. Name and mailing address of the permittee:

City of Kansas City
414 East 12th Street, Kansas City, MO 64106

b. Name(s), address, telephone number, and email address of the permittee's main contact for their MS4 program, or for each MCM:

Andy Shively
Water Services Department
4800 E 63rd St.
Kansas City MO 64130
Telephone: (816) 513-0304
Email: Andy.Shively@kcmo.org

Jing Tao
Water Services Department
4800 E 63rd St.
Kansas City MO 64130
Telephone: (816) 513-0371
Email: Jing.Tao@kcmo.org

c. General description of the permittee's activities that subject the permittee to MS4 requirements:

The city of Kansas City is the largest city in the State of Missouri and has a population of 508,090 according to the 2020 U.S. Census; with an approximate area of 319.03 mi^2, and a population density of 1,593 population/mi^2. The permittee owns and operates their Phase I Large (based on the 1990 U.S. Census) Municipal Separate Storm Sewer System (MS4). The MS4 is comprised of man-made engineered components that are designed or developed to reduce stormwater pollution runoff to the Maximum Extent Practicable within the permittee's jurisdiction.

d. Proposed, if any program modifications and justification for changes to BMPs, measurable goals, or the iterative process required under the SWMP or MCMs:

Currently none

e. Proposed, if any, modification and justification for changes to activities the permittee is conducting toward attainment of applicable WLA under EPA established or approved TMDLs:

Currently none

f. Map(s) and locational data for known stormwater outfalls from the permittee's MS4 to waters of the state. Maps and locational data shall be divided into new stormwater outfalls, if applicable, and existing stormwater outfalls, and list the receiving stream:

   See attachment 1 for the maps of the outfalls (separate maps for north and south of the River, respectively) .

g. Map(s) documenting service or jurisdictional boundary of the MS4, projected changes in land use, population densities, or projected future growth:

   See attachment 2 for the maps of future land uses and population densities.

h. If any entity, which includes co-permittees or other governmental agencies, are implementing or conducting activities to satisfy the terms and conditions of the permit or SWMP. If applicable, the permittee shall submit:
   i. Name and mailing address of the outside entity;
   ii. Name(s), address, telephone number and email address of the person(s) conducting the activities for the outside entity or co-permittee; and
   iii. Description of what the outside entity or co-permittee is conducting in satisfaction of the permit or SWMP;

   Not applicable

i. The permittee proposed SWMP including TMDL implementation:

   Currently remain the same as the one submitted to MDNR in 2022.

j. A description of any service or jurisdictional area expansion subject to the permittee's SWMP. The change in area can be documented via the map under Part G.1.g. of this permit, but must be clearly labeled.

   Currently none

Part II. KCMO proposed MS4 permit language, with all the markups to track changes from the current permit, as well as the notes to justify the changes.

- See the subsequent pages for the proposed permit language with markups.

- Notes for reasons of the primary proposed changes:

P. 9. **MCM 4.** ***Construction Site Stormwater Runoff Control***

a. vii. A description of appropriate educational and training measures for construction site ~~Operators~~ inspectors.

Reason (s): KCMO is one of the largest cities in the nation in terms of area size. Site condition can vary dramatically, which may require very site-specific sediment and erosion control measures. Also operators of construction sites, whether City owned or owned by private developers, come from various sources. Holding City responsible for training construction site operators may limit individual site operators' ability to address specific site condition effectively, while potentially hampering City's ability to take enforcement action when needed.

City inspectors for construction sites are the frontline observers, communicators and enforcers. By focusing on their proper training, the City is able to address the erosion and sediment control throughout the City in a more efficient and consistent way, while enabled to take firm enforcement actions when necessary. City's proper training, as stated here, also include requiring and equipping inspectors to be the experts of best management practices of construction sites and to be the advocators for water quality protection

P. 11. **MCM 8.** ***Flood Mitigation ~~Control~~ Projects and ~~Devices~~ Infrastructures***

Reason (s): We feel both mitigation and infrastructure are the proper terms in the context of this permit requirement.

P. 11. **MCM 9.** ***Monitoring***

a. i. Stormwater samples shall be collected from stormwater discharges from ~~three (3)~~ two (2) storm events annually occurring at least one (1) month apart;

a. ii. The permittee shall conduct storm event representative sampling at a minimum of ~~six~~ three separate locations to be described in the permittee's SWMP.

Reason (s): The City has had this monitoring program since the beginning of its MS4 permit history. Over the years, the City has made improvements to the program implementation by upgrading monitoring devices, providing better training for field crew, and using sampling locations for better characterization of stormwater runoff quality. However, the data results derived from this program

offers little value to the City's overall efforts to prevent, reduce and minimize stormwater pollution.

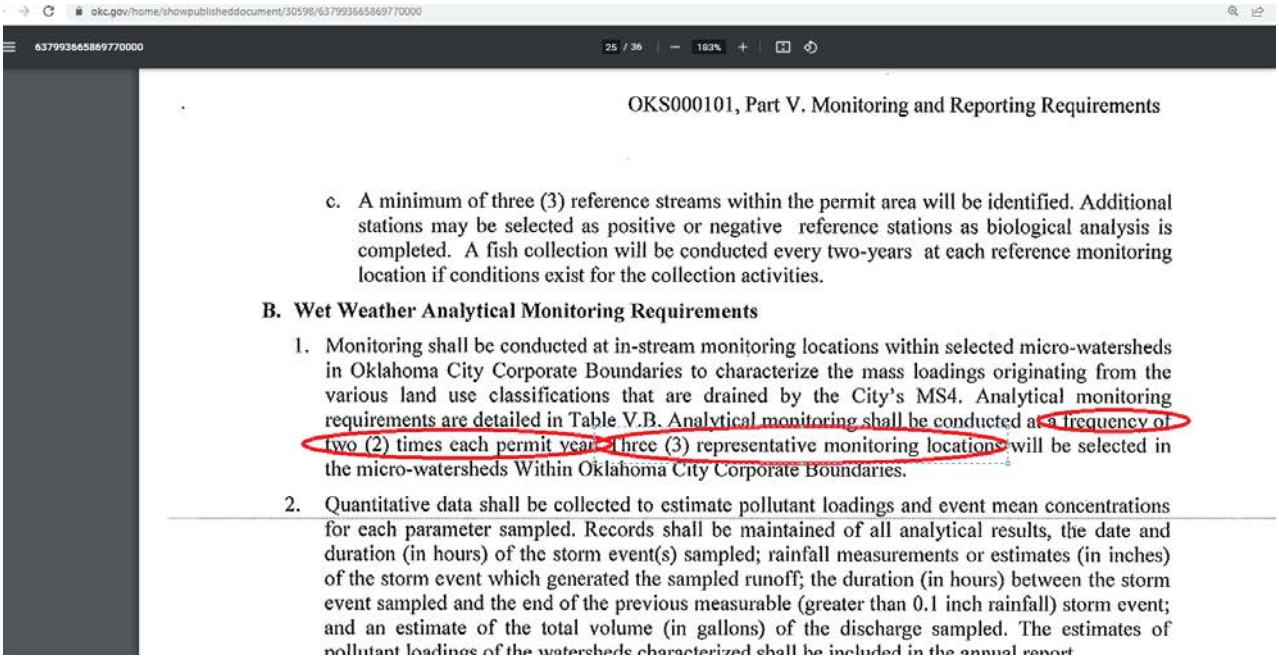
There are a few inherent factors that may have affected the usefulness of this monitoring program for KCMO. The purpose of such a program is to characterize stormwater runoff quality for three primary types of urban land uses (residential, commercial and industrial). Stormwater runoff can be heavily influenced by incidental releases within the drainage area of each sampling outfall, making the data not representative of the land use intended for monitoring. This may explain why our long-term monitoring data has not yet shown any distinctive pattern that would help the City understand its stormwater runoff quality in association with land uses. This may apply to other urban communities as well.

The second factor is for KCMO specifically. The City ranks the 14th largest one and 190th in population density in the nation according to 2020 census. The urban sprawl is as distinctive as other large cities but in a relatively sparsely pattern. To better characterize its runoff quality, the City uses sampling locations as evenly geographically distributed as possible, which means long driving distances between sites. Given the erratic nature of the onset of precipitation, it has been a big challenge for staff to track rain activities, predict rain amount and reach each destinated sampling location timely for field observation and measurement and sample collection. The possibilities of equipment malfunction or change of site condition can also add to the challenge, though the City does have a regular site maintenance program in place.

The third factor is also for KCMO specifically. The City's stormwater management programs are mostly intended to be implemented city-wide. With the relatively sparse population and urban footprints, BMP effort may not generate a dramatic impact on stormwater quality as a more densely populated community would see. Also the City's stormwater BMPs are applied where needed, and the stormwater monitoring locations are selected considering various factors including but not limited to, land uses within drainage areas, size of the monitoring outfalls, safety of the access to the sampling locations etc. Impacts from most BMPs are highly unlikely captured by the six outfall locations.

All the above factors may have contributed to the little value of this monitoring program and its ineffectiveness in guiding the City for stormwater non-point source pollution prevention. The City proposes having both the monitoring frequency and the number of monitoring locations reduced to keep down the cost of an ineffective program. The downsizing of such a program has, since 2013, been practiced by City of Oklahoma City, Oklahoma Turnpike Authority and Oklahoma Department of Transportation as three co-permittees for the Phase 1 MS 4 Permit #OKS000101. See P. 22 of the permit at the link below, and an image of the relevant excerpt is presented on the next page for convenience.

https://www.okc.gov/home/showpublisheddocument/30598/637993665869770000



OKS000101, Part V. Monitoring and Reporting Requirements

c. A minimum of three (3) reference streams within the permit area will be identified. Additional stations may be selected as positive or negative reference stations as biological analysis is completed. A fish collection will be conducted every two-years at each reference monitoring location if conditions exist for the collection activities.

B. Wet Weather Analytical Monitoring Requirements

1. Monitoring shall be conducted at in-stream monitoring locations within selected micro-watersheds in Oklahoma City Corporate Boundaries to characterize the mass loadings originating from the various land use classifications that are drained by the City's MS4. Analytical monitoring requirements are detailed in Table V.B. Analytical monitoring shall be conducted at a frequency of two (2) times each permit year. Three (3) representative monitoring locations will be selected in the micro-watersheds Within Oklahoma City Corporate Boundaries.
2. Quantitative data shall be collected to estimate pollutant loadings and event mean concentrations for each parameter sampled. Records shall be maintained of all analytical results, the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff; the duration (in hours) between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the discharge sampled. The estimates of pollutant loadings of the watersheds characterized shall be included in the annual report

a.iii. Parameters to be sampled and analyzed or calculated shall include the following at a minimum.

……

1. Total Suspended Solids;
2. Specific conductivity (field);
3. Chemical Oxygen Demand;
4. ~~Biochemical Oxygen Demand;~~
5. ~~Oil and Grease~~
6. E. coli;
7. pH (field);
8. Total Kjeldahl Nitrogen;
9. Nitrate + Nitrite;
10. Dissolved Phosphorus; and
11. Total Phosphorus; and…

Reason(s):

Deletion of biochemical oxygen demand: It is known that there is a correlation between the two parameters: biochemical oxygen demand and chemical oxygen demand. The actual relationship between the two needs to be established for each sampling location and is a useful tool in municipal wastewater treatment and process monitoring and modeling.

In the context of stormwater runoff, the information of the chemical oxygen demand carries sufficient general indication for stormwater runoff quality and BMP effectiveness. Additional information of the biochemical oxygen demand offers no additional benefits.

Deletion of oil and grease: This parameter has a very low detection frequency. Over the last three years, the detection frequency is less than 18% per permit year. Even when detected, the value is mostly lower than 10 mg/L, the criteria for Designated Uses in the State's 10 CSR 20-7.031 (1/29/22).

P. 12. **MCM 9.** ***Monitoring***

b. Biological Assessments. … the permittee shall conduct macroinvertebrate assessments of ~~two~~ ten or more urban streams for a minimum of one year (fall and spring). …

Reason(s): Within the City limits, there are 35 streams at the level of 12-digit Hydrologic Unit Code (HUC) by U.S. Geological Survey. For this MS4 permit requirement, the City has historically included multiple streams to cover as much as areas as financially feasible to capture the stream information. The purpose is to make the data from this compliance program meaningful to guide the City's protection of local environmental resources. The City would like to continue this practice and be acknowledged in the Permit.

Part III. Attachments – Maps of outfalls, future land uses and population densities.