

**OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM
DEPARTMENT OF ENVIRONMENTAL QUALITY
FACT SHEET**

The Oklahoma Pollutant Discharge Elimination System (OPDES) Permit No. OKS000201 for the Tulsa Municipal Separate Storm Sewer System (MS4) to discharge storm water to waters of the State.

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For the Tulsa MS4 to discharge to waters of the State

1. NOTICE OF INTENT TO ISSUE A PERMIT

The Department of Environmental Quality (DEQ) has made a tentative determination to reissue a permit for the discharge of storm water from the Municipal Separate Storm Sewer System (MS4) described in the application. Permit requirements are based on the Clean Water Act (33 U.S.C. 1251 et seq.), hereinafter referred to as the Act, and OPDES regulations OAC 252:606-1- 3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26, as amended.

2. PERMITTING AUTHORITY

The Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677

3. APPLICANT(S)

City of Tulsa
4818 S. Elwood Ave.
Tulsa, OK 74107

Oklahoma Department of
Transportation (ODOT)
200 N.E. 21st Street
Oklahoma City, OK 73105

Oklahoma Turnpike Authority
(OTA)
3500 N. Martin Luther King
Oklahoma City, OK 73111

All applicants corporately or individually own or operate portions of the Tulsa MS4. The City of Tulsa, ODOT, and OTA have been operating under co-permittee status and the DEQ wishes to encourage the cooperative efforts of these owners of portions of the Tulsa MS4. The DEQ will include ODOT and OTA as co-permittees in the final permit provided Tulsa, ODOT, and OTA continue the Memorandum of Agreement in principle to be co-permittees.

4. DESCRIPTION OF THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

As authorized by Section 402(p) of the Act, this permit is being proposed on a system basis. This permit covers all areas within the corporate boundary of the City of Tulsa (hereafter referred to as Tulsa) served by, or otherwise contributing to discharges from municipal separate storm sewers owned or operated by the applicant(s) listed above.

5. DISCHARGES AUTHORIZED BY THIS PERMIT

a. Storm Water

This permit authorizes all existing or new storm water point source discharges to waters of the State from the MS4.

b. Non-storm Water

This permit does authorize the discharge of storm water commingled with flows contributed by process wastewater, non-process wastewater, or Storm Water Associated with Industrial Activity,

provided such discharges are authorized under separate OPDES or National Pollutant Discharge Elimination System (NPDES) permits. In addition, certain types of non-storm waters listed in OPDES regulations OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26(d)(2)(iv)(B)(1) are allowable if appropriately addressed in the Storm Water Management Program (SWMP).

There is a difference between the Act's statutory requirements for discharges from municipal storm sewers and industrial sites:

- i. Section 402(p)(3)(B) of the Act required an effective prohibition on non-storm water discharges to a MS4 and controls to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable (MEP).
- ii. Section 402(p)(3)(A) of the Act requires compliance with treatment or Best Available Technology (BAT) and Section 301 water quality requirements on discharges of Storm Water Associated with Industrial Activity.

Because of the difference in the statutory requirements, and the fact that the Act does not exempt Storm Water Associated with Industrial Activity from the requirement to obtain a separate OPDES permit, these storm water discharges cannot be authorized by the MS4 permit. Such discharges would require a separate OPDES permit. However, the permittees are responsible for the quality of the combined discharge, and have a vested interest in locating uncontrolled and unpermitted illicit and industrial storm water discharges.

c. Spills

This permit does not authorize discharges of material resulting from a spill. If discharges from a spill are necessary to prevent imminent threat to human life, personal injury, or severe property damage, the permittees have the responsibility to take or insure the party responsible for the spill takes reasonable and prudent measures to minimize the impact of discharges on human health and the environment.

6. RECEIVING STREAM SEGMENTS AND DISCHARGE LOCATIONS

The discharges from the Tulsa MS4 are into the Arkansas and Verdigris River Basins as follows:

Arkansas River Basin

Bigheart Creek, Cherry-Red Fork Creek, Vensel Creek, Crow Creek, Downtown Creek, Upper Joe Creek, Elm Creek, Fred Creek, Swan Creek, Fry Ditch No. 2, Garden City, S. Fork, Little Joe Creek, Hager Creek, Haikey Creek, S. Tulsa Drainage Area, Harlow Creek, Lower Basin, Perry Man Ditch, Mooser Creek, Parkview Creek, Nickel Creek, N. Fork Little Joe, and Oak Creek, and tributaries thereto.

Verdigris River Basin

Adams Creek, Center-Rolling Hills Creek, Bird Creek, Coal Creek, Cooley Creek, Dirty Butter Creek, Flat Rock Creek, Lower Middle Mingo Creek, Mingo Creek, Lower Mingo Creek, Reservoir Creek, Spunky - Pond Creeks, Upper Mingo Creek, and Upper Middle Mingo Creek and Knudson Creek, and tributaries thereto.

7. EFFECTIVE DATES

Compliance with permit conditions is required on the effective date of the permit, (refer to Section 12 of this Fact Sheet).

8. PUBLIC NOTICE

Upon publication of the public notice and this fact sheet, a 30-day public comment period shall begin. During this period, any interested person may submit written comments on the draft permit, to the DEQ point of contact listed below. Also during this period any person may request a public meeting to clarify issues involved in the permit decision. A request for a public meeting shall be in writing and shall state the nature of the issues proposed to be raised. A public meeting will be held if the DEQ determines there is a significant degree of public interest in the draft permit.

9. POINT OF CONTACT

For information contact: Ms. Karen Milford, Water Quality Division, Department of Environmental Quality, P.O. Box 1677, Oklahoma City, OK 73101-1677

Phone:(405) 702-8191 or E-mail: Karen.milford@deq.ok.gov

10. BASIS FOR PERMIT CONDITIONS

a. Statutory Basis for Permit Conditions

The reapplication process for this permit is in accordance with the MS4 Permit Reapplication Policy of May 17, 1996. The conditions established by this permit are based on Section 402(p)(3)(B) of the Act which mandates that a permit for discharges from MS4s must: effectively prohibit the discharge of non-storm water to the MS4; and require controls to reduce pollutants in discharges from the MS4 to the MEP. This includes Best Management Practices (BMP), control techniques, system, design and engineering methods, and other such provisions determined to be appropriate. MS4s are not exempt from compliance with Water Quality Standards. Section 301(b)(1)(C) of the Act requiring that OPDES permits include limitations, including those necessary to meet water quality standards, applies. The intent of the permit conditions is to meet the statutory mandate of the Act.

As authorized by OPDES regulations OAC 252:606-1-3(b)(3)(Z) adopting and incorporating by reference 40 CFR 122.44(k), the permit will be utilizing Structural Controls, BMPs, and a comprehensive SWMP as the mechanism to implement the statutory requirements. Section 402(p)(3)(B)(iii) of the Act clearly includes structural controls as a component of the MEP requirement. The DEQ has encouraged permittees to explore opportunities for pollution prevention measures, while reserving the more costly structural controls for high priority locations, or where pollution prevention measures are unfeasible or ineffective.

b. Regulatory Basis for Permit Conditions

As a result of the statutory requirements of the Act, the DEQ promulgated the MS4 Permit application regulations, OPDES regulations OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26(d). These regulations are described in detail for the permit application requirements for operators of MS4s. The information in the application, the previous permit, and submitted reports were utilized by the DEQ to develop the permit conditions and determine the permittee status in relationship to these conditions.

c. Discharge Goals and Limitations

- i. Discharge Goals: The following goals apply to discharges from MS4s and were considered in review of the SWMP and in preparation of the draft permit. In implementing the SWMP, the permittees are required to aspire to these goals. The goals are included to further define the intent

of the permit, but are not to be directly interpreted as discharge limitations independent of the SWMP and any numeric or narrative limitations under Parts II and IV of the permit:

- (1) No discharge of toxic pollutants in toxic amounts. It is the national policy that the discharge of toxics in toxic amounts be prohibited according to Section 101 (a)(3) of the Act. The Oklahoma Water Quality Standards (Section 785:45-5-12[f][6]) states, "Surface waters of the State shall not exhibit acute toxicity and shall not exhibit chronic toxicity outside the mixing zone."
- (2) No discharge of pollutants in quantities that would cause a violation of State water quality standards. Section 301 (b)(1)(C) of the Act and OPDES regulations OAC 252:606-1-3(b)(3)(Z) adopting and incorporating by reference 40 CFR 122.44(d) require that OPDES permits include "...any more stringent limitations, including those necessary to meet water quality standards, treatment standards, or schedule of compliance, established pursuant to State law or regulations..." Implementation of the SWMP is reasonably expected to provide for protection of State water quality standards.
- (3) No discharge of floatable debris, oils, scum, foam, or grease in other than trace amounts. The Oklahoma Water Quality Standards (OAC 785:45-5-9) require waters of the State to "...be maintained so as to be essentially free of floating debris, bottom deposits, scum, foam and other materials, including suspended substances of a persistent nature, from other than natural sources."
- (4) No discharge of non-storm water from the municipal separate storm sewer system, except in accordance with Part I.B. Permits issued to MS4s are specifically required by Section 402(p)(3)(B) of the Act to "...include a requirement to effectively prohibit non-storm water discharges into the storm sewers..." The OPDES regulations OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference (40 CFR 122.26[d][2][iv][B][1]) allows the permittee to accept certain non-storm water discharges, where they have not been identified as significant sources of pollutants. Any discharge subject to its own OPDES or NPDES permit is not subject to the ban on non-storm water discharges.
- (5) No impairment of State-designated beneficial uses of receiving waters as a result of storm water discharges from the municipal separate storm sewer. No degradation of receiving waters as a result of storm water discharges from the MS4 except as authorized by the State in accordance with the State's Anti-degradation Policy (Part I.D.5). The State of Oklahoma has adopted an Anti-degradation Policy as part of the Water Quality Standards 785:45-3-1. This Policy requires maintenance of: existing in stream water uses, existing water quality levels where existing water quality exceeds the levels necessary to support propagation of fish, wildlife, and recreation, in and on, the water. The exception is where the State has determined that lowering water quality is necessary to accommodate important economic or social development in the area where the waters are located as well as existing water quality where high quality waters constitute an outstanding natural resource (e.g. waters of national and state parks and wildlife refuges or exceptional recreational or ecological significance), and compliance with Section 316 of the Act where potential water quality impairment is associated with a thermal discharge.

ii. Discharge Limitations

No numeric limitations are proposed at this time. In accordance with OPDES regulations OAC 252:606-1-3(b)(3)(Z), adopting and incorporating by reference 40 CFR 122.44(k), the DEQ has required a series of BMPs, in the form of a comprehensive SWMP, in lieu of numeric limitations.

11. STORM WATER MANAGEMENT PROGRAM (SWMP)

The SWMP submitted by the permittees is required to contain program elements for each of the items in Table A.

Table A - Storm Water Management Program Elements

Required Program Element	Permit Parts	Federal Regulatory references 40 CFR 122.26*
Structural controls	II.A.1	(d)(2)(iv)(A)(1)
Areas of new development & Significant redevelopment	II.A.2	(d)(2)(iv)(A)(2)
Highways, public streets, & roads	II.A.3	(d)(2)(iv)(A)(3)
Flood control projects	II.A.4	(d)(2)(iv)(A)(4)
Pesticides, herbicides, & fertilizers application	II.A.5	(d)(2)(iv)(A)(6)
Detection and removal of Illicit discharges and prevention of improper disposal	II.A.6	(d)(2)(iv)(B)(1)-(3) & (IV)(B)(7)
Spill prevention, containment, and response	II.A.7	(d)(2)(iv)(B)(4)
Industrial and high risk runoff	II.A.8	(d)(2)(iv)(C), (iv)(A)(5)
Industrial & high risk runoff	II.A.8	(d)(2)(iv)(C)
Construction site runoff	II.A.9	(d)(2)(iv)(D),
Public education	II.A.10	(d)(2)(iv)(A)(6), (iv)(B)(5), and (iv)(B)(6)
Employee education	II.A.11	(d)(2)(iv)(A)(6)
Monitoring program	II.A.12	(d)(2)(iv)(B)(2), (iii), (iv)(A), (iv)(C)(2)

*OPDES Regulations OAC 252:606-1-3(b)(3)(L)

Oklahoma state regulations OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26(d)(2)(iv), authorize separate proposed programs for co-permittees, and imposition of controls for different areas of the MS4 on a watershed, jurisdiction, or individual outfall basis. Due to differences in climate, topography, historical development patterns, legal authority, sensitivity of receiving waters, and many other factors the DEQ believes some flexibility in prioritizing the scope and timing of individual program elements must be afforded the permittees. The standard of reducing the pollutants to the MEP is therefore applied to the SWMP as a whole, rather than to each individual program element. The DEQ believes this approach is in accordance with Section 402(p)(3)(B) of the Act and the intent of Congress.

For the purposes of this document, the SWMP is considered a single document attached to the permit with each permittee's individual SWMP constituting a "chapter". All references to SWMP refer to this single "combined" document.

The following summarize the SWMP elements submitted by the permittee(s) to satisfy the requirements.

a. Structural Controls

The MS4 and any storm water structural controls shall be operated in a manner to reduce the discharge of pollutants to the MEP.

Tulsa will maintain and inspect the MS4's structural controls owned or operated by the City. Permittees will update the SWMP to include operations and maintenance procedures for storm water structural controls, as needed.

b. Areas of New Development and Significant Re-development

A comprehensive master planning process (or equivalent) to develop, implement, and enforce controls to minimize the discharge of pollutants from areas of new development and significant re-development after construction is completed is required.

Tulsa shall incorporate Low Impact Development (LID) and other green design strategies into existing ordinances regulating development. The policy described in the SWMP includes reliance on existing ordinances and policies for permitting development and construction. The City has established a master plan for development, which has been organized on a basin-by-basin basis. Education of building inspectors and the regulated community on current and future local requirements has already begun.

c. Roadways

Public streets, roads, and highways shall be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities.

The permittees may have contracts with private contractors for the operation and maintenance of public roadways. These contracts must be reviewed to see that they include appropriate provisions to ensure compliance with the SWMP and the permit. The current program includes, among other things, sweeping of streets for the removal of trash and sediment and a litter and debris removal program. The Tulsa Public Education Program will include elements for litter prevention.

d. Flood Control Projects

Impacts on receiving water quality shall be assessed for all flood control projects. The feasibility of retrofitting existing structural flood control devices to provide additional pollutant removal from storm water shall be evaluated.

Permittees are required to prepare criteria to assure that flood control projects are assessed for the projects' impact on water quality and evaluate existing flood control devices to determine if retrofitting is feasible. The Flood Control Program is already part of the SWMP and is being implemented.

e. Pesticide, Herbicide, and Fertilizer Application

Each permittee shall implement controls to reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied by the permittee's employees or contractors.

A public education program was developed to increase public awareness on the impacts of improper storage and use of herbicides, fertilizers, and pesticides. The permit requires permittees to implement annual training and education of employees on herbicide, pesticide, and fertilizer use.

f. Illicit Discharges and Improper Disposal

An ongoing program to detect and eliminate illicit discharges and improper disposal into the MS4 is required. Non-storm water discharges shall be effectively prohibited. However, the permittee may allow certain non-storm water discharges as listed in 122.26(d)(2)(iv)(B)(1). The SWMP shall identify any allowed non-storm water discharges, along with any conditions placed on such discharges.

Implementation of a public education program on illicit discharges and improper disposal is required. Tulsa and any co-permittees were required to submit a list of non-storm water discharges that are allowed or not allowed to discharge to the MS4 and reasons for these determinations.

Each permittee shall prevent (or require the operator of the sanitary sewer to eliminate) unpermitted discharges of dry and wet weather overflows and the infiltration of seepage from sanitary sewers into the MS4.

Tulsa currently implements a program for maintenance of the sanitary sewer system. The City is required to include a program for limiting seepage from sanitary sewers into separate storm sewers. Neither OTA nor ODOT operate any sanitary sewers.

The discharge of floatables (e.g.: litter and other human generated solid refuse) into the MS4 shall be reduced. The permit requires permittees to implement a floatables control education program.

The discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal wastes into the MS4 shall be prohibited. The permittees shall ensure the implementation of programs to collect used motor vehicle fluids (at a minimum, oil and antifreeze) for recycle, reuse, or proper disposal and to collect household hazardous waste materials (including paint, solvents, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal.

Tulsa implemented a public education program aimed at proper management and disposal of household hazardous waste and used motor fluids. Semi-annually, the City will be having collection events for household hazardous wastes. It will be providing a program that will include opportunities for the public to drop-off certain materials on a weekly basis.

ODOT and OTA address used motor vehicle fluids at their vehicle maintenance yards. It is not anticipated that OTA and ODOT would participate in public education on household hazardous waste, but would serve in more of a support capacity (e.g. traffic control, signs, public service announcements, other contributions of resources, etc.) for collection events.

A program to locate and eliminate illicit discharges and improper disposal into the MS4 shall be implemented. This program shall include dry weather screening activities to locate portions of the MS4 with suspected illicit discharges and improper disposal. Follow-up activities to eliminate illicit discharges and improper disposal may be prioritized on the basis of the magnitude and nature of the suspected discharge; sensitivity of the receiving water; and/or other relevant factors. This program shall establish schedules for dry weather screening (described in Part II.A.12.a) of the entire MS4 at least once during the permit term. Facility inspections may be carried out in conjunction with other permittee programs (e.g. pretreatment inspections of industrial users, health inspections, fire

inspections, etc.), but must include random inspections for facilities not normally visited by the permittee.

Each permittee will conduct an on-going system wide dry weather screening program for the MS4. ODOT and OTA are included in this program.

Each permittee shall require the elimination of illicit discharges as expeditiously as possible and the immediate ending of improper disposal practices upon identification of responsible parties. Where elimination of an illicit discharge within thirty (30) days is not possible, the permittee shall require an expeditious schedule for removal of the discharge and to take all reasonable and prudent measures to minimize the discharge of pollutants to the MS4.

g. Spill Prevention and Response

A program to prevent, contain, and respond to spills that may discharge into the MS4 shall be implemented. The spill response program may include a combination of spill response actions by the permittees (and/or another public or private entity), and legal requirements for private entities within the permittees' jurisdiction.

Tulsa currently implements a spill response program as part of general public protection. ODOT and OTA also participate in spill response on their roadway rights of way. The permit requires incorporation of spill response procedures as part of the SWMP, which will reduce materials discharging into the MS4.

h. Industrial and High Risk Runoff

A program to identify and control pollutants in storm water discharges to the MS4 from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities and facilities that are subject to the Emergency Planning and Community Right-to-know Act (EPCRA) Title III, Section 313; and any other industrial or commercial discharge the permittee determines are contributing a substantial pollutant loading to the MS4 shall be implemented. The program shall include inspections, a monitoring program (described in Part II.A.8), and a list of industrial storm water sources discharging to the MS4 that shall be maintained and updated as necessary.

Tulsa has implemented a storm water-permitting program for high-risk runoff, complete with enforcement and inspection programs. ODOT and OTA are not expected to have any high-risk facilities discharging into their storm sewers that are not addressed under the Tulsa program.

i. Construction Site Runoff

A program to reduce the discharge of pollutants from construction sites shall be implemented. This program shall include: requirements for the use and maintenance of appropriate structural and nonstructural control measures to reduce pollutants discharged to the MS4 from construction sites; inspection of construction sites and enforcement of control measures requirements; appropriate education and training measures for construction site operators; and notification of appropriate building permit applicants of their potential responsibilities under the OPDES permitting program for construction site runoff.

Tulsa has begun education efforts aimed at both City personnel and the regulated community. A formalized construction site runoff pollution prevention program, including permitting of construction sites and operators, is in place. Any updated program will be reported in the annual report.

OTA and ODOT are already subject to storm water permitting requirements for construction sites.

j. Public Education

A public education program shall include the following elements:

- i. A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or improper disposal of materials into the MS4;
- ii. A program to promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes; and
- iii. A program to promote, publicize, and facilitate the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors.

Tulsa plans a series of public education activities on the following topics: general awareness on storm water quality; proper use and storage of pesticides, fertilizers, etc.; compliance with local development and construction site controls; illicit discharges and improper disposal (including a storm water hotline); and requirements of the Storm Water Management Program. The City anticipates using public meetings, brochures, public access TV, classroom instruction materials, etc. as part of the public education program. ODOT and OTA would be expected to cooperate in these efforts.

k. Monitoring Programs

The following monitoring programs shall be implemented (see Part IV of the permit for a description of additional monitoring requirements).

- i. Dry weather screening program: discussed above under illicit discharges and improper disposal. All areas of the MS4 must be screened at least once during the permit term.
- ii. Watershed Characterization Program: There are thirty (30) watersheds that have been identified in MS4 areas. The watershed characterization projects will provide a comprehensive assessment of the appropriateness of the identified BMPs, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and progress towards achieving the measurable goals for each control measure.

Permittees will identify, investigate, and address areas within their jurisdiction that may contribute excessive levels of pollutants to the MS4. An analytical monitoring shall be conducted at least once at 30 monitoring locations during the permit term. A minimum of six (6) locations will be monitored each year. Analytical monitoring requirements, including parameters sampled and types of samples, are listed in Part IV of the permit. Aquatic habitat surveys and biological monitoring, including benthic macro-invertebrate and fish collections will be conducted at least once per permit year at each location if conditions exist for the collection activities.

- iii. Industrial and High Risk Runoff Monitoring Program: Tulsa will continue an Industrial and High Risk Monitoring Program. The program will be reviewed annually, updated and reported in the annual report.

12. STORM WATER MANAGEMENT PROGRAM (SWMP) COMPLIANCE

Compliance with Part II.A of the Permit will be accomplished by the implementation of and compliance with the described activities of the various elements of the permittees SWMP. Permittees must fully implement the SWMP on the effective date of the permit. All the required support and initiation

procedures for the program elements should be established, and the elements activities performed as described and scheduled.

13. ROLES AND RESPONSIBILITIES OF PERMITTEES

The regulation OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26(d)(2)(vii) requires permittees to describe the roles and responsibilities of each entity applying for the permit to ensure effective coordination. Interagency Agreements are the means by which the permittees propose to implement the SWMP and monitoring program. Each of the permittees plans to implement their individual programs on the portion of the system that they own and operate. Permittees are accountable for understanding their role and responsibilities regarding permit conditions.

14. PERMITTEES' LEGAL AUTHORITY

The permittees are required to have the legal authority necessary to successfully enforce, implement, and complete the various activities described in the permit and SWMP. Tulsa, ODOT, and OTA stated in the application that adequate legal authority exists or is being sought for the following requirements: control the contribution of pollutants to, and quality of storm water from industrial sites contributing to the storm sewer system; prohibit illicit discharges to the storm sewer system; control spills, dumping or improper disposal to the storm sewer system; control of the contribution of pollutants from one portion of the storm sewer system to the other; require compliance with ordinances; and perform site inspections and monitoring.

15. PERMITTEES' RESOURCES

Part II.F of the permit requires permittees to provide adequate support capabilities to implement their activities under the SWMP. Compliance with Part II.F will be demonstrated by the permittees ability to fully implement the SWMPs, monitoring programs, and other permit requirements. The permit does not require specific funding or staffing levels, thus providing the permittees the ability and incentive to adopt the most efficient and cost effective methods to comply with permit requirements.

16. TYPES AND QUANTITY OF POLLUTANT PARAMETERS DISCHARGED

The permittees will establish a watershed characterization program, which will consist of analytical and biological monitoring components. A minimum of six (6) locations will be selected to provide comprehensive data of identified watersheds on a rotating basis. Parameters sampled included conventional and priority pollutants. The DEQ reviewed this information during the permitting process. Monitoring data was intended to be used by the permittees to assist in their determination of appropriate storm water management practices. DEQ used the data to review the application and to determine pollutants of concern discharging from the MS4 that should be monitored during the permit term. The permit requires characterizing discharges from areas of new development or significant redevelopment and demonstrating that Low Impact Development and other green designs would result in a substantial cost savings while adequately protecting the water quality and reducing discharge pollutants and volume.

a. 303(d) List Of Impaired Waters

The Tulsa Storm Sewer System discharges into various water bodies that are listed on the Oklahoma Impaired Waters List, or 303(d) list. See Table B below. This list of water bodies is updated biennially and contains information regarding the reason, or cause, for the impairment.

The Tulsa MS4 permit contains conditions that are sufficient to prevent further impairment of these waterbodies.

Table B. 303(d) WATER BODIES WITHIN TULSA CITY LIMITS

Water Body ID	Stream Name	Impairments
OK120420010010_00	Arkansas River	Enterococcus, Lead, and Fecal Coliform
OK120420010010_10	Arkansas River	Cadmium, Fecal Coliform
OK121300010010_00	Bird Creek	Cadmium, Enterococcus, Lead, Fecal Coliform, Turbidity, Oil & Grease, E. Coli, Sulfates and Zinc
OK120420010090_00	Crow Creek	E. Coli, and Dissolved Oxygen
OK120420010060_00	Fred Creek	E. Coli
OK120420010070	Mooser Creek	E. Coli
OK120420020040	Nickel Creek	E. Coli
OK120410010210	Haikey Creek	E. Coli and Diazinon
OK121500020150	Adams Creek	E. Coli and Diazinon
OK120420010140-00	Blackboy Creek	E. Coli
OK120420010170_00	Harlow Creek	E. Coli
OK121300010090_00	Coal Creek	E. Coli

It is increasingly important to address 303(d) listing issues and comply with approved TMDL. The Monitoring and Reporting Requirements (see Part IV.) provide the mechanisms to demonstrate the efficiency of storm water controls and indicate the process toward meeting permit requirements. Analysis of the results will allow non-point sources to be addressed at the source of origination.

Table C below lists requirements of this permit that will address the various pollutants suspected of causing impairment of waterbodies on the 303(d) list.

Table C. Permit Requirements for Addressing 303(d) Pollutants

Pollutants	Measures that Address the Pollutants
Pathogens Turbidity, Diazinon, Low Dissolved Oxygen	<ul style="list-style-type: none"> ✓ Maintain and inspect the storm water structural controls owned or operated by the MS4 operators. ✓ Implement and enforce controls, such as on-site natural filtration and infiltration to minimize the discharge of pollutants from areas of new construction and significant redevelopment. ✓ Operate and maintain public streets/highways to minimize discharge of pollutants, including deicing and sanding operations. ✓ Continue assessment of flood control devices and consider retrofitting those in need to repair. ✓ Continue the program to detect and eliminate illicit discharges and improper

Pollutants	Measures that Address the Pollutants
	<p>disposal.</p> <ul style="list-style-type: none"> ✓ Continue and improve the public education program. ✓ The Spill prevention and response program will continue to improve the prevention, response, and containment of spills. ✓ Continue to improve the program that identifies industrial and high-risk facilities such as landfills, treatment, storage and waste disposal facilities, and hazardous waste treatment, storage and disposal or recovery. ✓ Continue to improve the program to reduce the discharge of pollutants from construction sites which includes the proper and timely use and maintenance of appropriate structural and nonstructural control measures, inspection of construction sites and enforcement of control measures. Appropriate and timely public education and training of construction site operators.

b. Total Maximum Daily Load (TMDL) Allocations

Where a TMDL is established for receiving waters within the MS4, the permittees will be required to develop a reduction plan for the pollutants identified in the TMDL, and monitoring program which shall be designed to demonstrate the effectiveness of the BMPs and progress toward the reduction goals of the TMDL and attainment of water quality standards.

Although discharges of pollutants into the water quality-limited receiving waters are authorized by this proposed permit, the permittees must develop and implement their reduction plan and monitoring program within any timeframes established in the TMDL. These expected pollutant reductions allow the DEQ to authorize such discharges from the MS4 without causing adverse impacts to water quality-limited receiving waters. The proposed permit also requires permittees to document the monitoring and reporting of the discharges to ensure compliance with the TMDL.

17. MONITORING AND REPORTING

a. Reports Required

Permittees are required by OAC 252:606-1-3(b)(3)(X) adopting and incorporating by reference (40 CFR 122.42[c][1]) to contribute to the preparation of an annual system-wide report including the status of implementing the SWMP. The annual report must include proposed changes to the SWMP; revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application; a summary of the data, including monitoring data, that is accumulated throughout the reporting year; annual expenditures and the budget for the year; a summary describing the number and nature of enforcement actions, inspections, and public education programs; and identification of water quality improvements or impact. The permittees are required to perform annual evaluations on the effectiveness of the SWMP, and institute or propose modifications necessary to meet the overall permit standard of reducing the discharge of pollutants to the MEP. In order to allow the orderly collection of budgetary and monitoring data, it was determined to allow the annual report submittal date to relate to the permittees' annual fiscal year and monitoring seasons. Tulsa's fiscal year and first dry season ended on June 31st; the annual report is due October 15. Copies of these reports will be available to the public.

b. Monitoring

The permittees are required by OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference (40 CFR 122.26(d)(2)(iii)(C) and (D)) to monitor the MS4 to provide data necessary to assess the effectiveness and adequacy of SWMP control measures; and identify water quality improvements or impact. The permittees are responsible for conducting any additional monitoring necessary to accurately characterize the quality and quantity of pollutants discharged from the MS4.

Due to the variability of storm water discharges, the cost of the monitoring program needs to be balanced with the monitoring objectives and the more important goal of actually implementing controls that will directly affect the quality of the storm water discharged. The permit requires three (3) types of monitoring: Dry weather field screening, Watershed Characterization and Floatables Monitoring.

- i. **Dry Weather Field Screening Monitoring:** Permittees shall continue ongoing efforts to detect and remove any illicit connections and improper discharges to the MS4. Permittees shall conduct a field screening to cover all areas of the MS4 during the permit term. At minimum, a field screening analysis shall include a narrative description of visual observations made during a dry weather period. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of 4 hours between samples. For such samples, a narrative description of the color, odor, turbidity, the presence of oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-stormwater discharges or illegal dumping shall be provided.
- ii. **Watershed Characterization Monitoring:** Characterization of the watershed that drains into the impaired waters is an initial effect to implementation of the established or approved TMDL. Permittees are required to use this rotating watershed monitoring to characterize the physical, chemical, and biological properties of the receiving waters. It includes the following components:
 - (a) Analytical Monitoring will provide information on the water quality of receiving streams from the MS4, and a mechanism to evaluate reductions in pollutants discharged from the MS4. Results from the monitoring program will be submitted annually. The permittees are required to monitor for these parameters throughout the permit term: See list below.

PARAMETERS	REPORT FOR EACH MONITORING PERIOD (each sample type)			SAMPLE TYPE(S)		MONITORING FREQUENCY ¹
	Minimum	Average	Maximum	Grab		
Biochemical Oxygen Demand (BOD ₅) (mg/l)		Yes	Yes	Yes		1/month
Chemical Oxygen Demand (COD) (mg/l)		Yes	Yes	Yes		1/month
Oil and Grease (mg/l)		Yes	Yes	Yes		1/month
Total Suspended Solids (TSS) (mg/l)		Yes	Yes	Yes		1/month
Total Dissolved Solids (TDS) (mg/l)		Yes	Yes	Yes		1/month
Total Nitrogen (mg/l)		Yes	Yes	Yes		1/month
Total Kjeldahl Nitrogen (TKN) (mg/l)		Yes	Yes	Yes		1/month
Total Phosphorus (mg/l)		Yes	Yes	Yes		1/month
Dissolved Phosphorus (mg/l)		Yes	Yes	Yes		1/month
Total Cadmium (ug/l)		Yes	Yes	Yes		1/month
Total Copper (ug/l)		Yes	Yes	Yes		1/month
Total Lead (ug/l)		Yes	Yes	Yes		1/month
Total Zinc (ug/l)		Yes	Yes	Yes		1/month
Fecal Coliform (colonies/100 ml)		Yes	Yes	Yes		1/month
E. Coli (colonies/100ml)		Yes	Yes	Yes		1/month
Diazinon		Yes	Yes	Yes		1/month
pH (S.U.)	Yes		Yes	Yes		1/month
Hardness (as CaCO ₃) (mg/l)	Yes	Yes	Yes	Yes		1/month
Temperature (°C)	Yes	Yes	Yes	Yes		1/month

¹. Monitoring frequency for each year.

Monitoring will be conducted at a minimum of six (6) selected locations.

The DEQ established permit parameter monitoring requirements based on the information available regarding storm water discharges and potential impacts of these discharges. The basic parameter list allows satisfaction of the regulatory requirement OAC 252:606-1-3(b)(3)(L) adopting and incorporating by reference 40 CFR 122.26(d)(2)(iii)(A)(4).

- (b) Biological Monitoring will be conducted at least once per permit year within identified watersheds. Permittees shall obtain all necessary aquatic wildlife collection permits from appropriate Federal and/or State agencies. Permittees shall follow the procedures contained in Oklahoma's Standardized Bio-assessment Protocol while these collections (habitat, benthic macro-invertebrate and fish) will be conducted.
- (c) Based on the results of the biological monitoring, a wet weather field screening program must be developed to assess any impacts to the identified watershed. The program can rely on field samplings for the situations where city shall identify, investigate and address areas within their jurisdiction that may be contributing excessive levels of pollutants to the MS4. The wet weather field screening program:
 - (1) Shall screen the MS4, in accordance with the procedures specified in the SWMP;
 - (2) Shall specify the sampling and non-sampling techniques to be used for initial screening and follow-up purpose. Sample collection and analysis need not conform to the requirements of OAC 252:606-1-3(b)(7) adopting and incorporating by reference 40 CFR Part 136. However, samples taken to confirm (e.g. in support of possible legal action) a particular illicit discharge or improper disposal practice should conform to the requirements of OAC 252:606-1-3(b)(7);
 - (3) 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.
- iii. Floatables Monitoring: Installation of five(5) floatables monitoring stations will be accomplished to investigate trends in water quality issues related to manmade debris and floatables. The comparison of yearly monitoring results should allow the permittees and the DEQ to assess the impact of the SWMP elements as they relate to the reduction and elimination of floatables discharged from the MS4.

18. PERMIT MODIFICATIONS

a. Re-opener Clause

The DEQ may reopen and require modifications to the permit (including the SWMP) based on the following factors: changes in the State's Water Quality Management Plan and State or Federal requirements; adding permittees; SWMP changes impacting compliance with permit requirements; additional storm water controls identified in a TMDL that may be necessary to maintain applicable water quality standards; other modifications deemed necessary by the DEQ to adhere to the requirements of the Clean Water Act. These modifications comply with OAC 252.605-1-3(b)(3)(HH)

adopting and incorporating by reference 40 CFR 122.63(f) which allows permits to be modified to conform to changes in OAC 252.606-1-3(b)(3)(W) adopting and incorporating by reference 40 CFR 122.41(l).

Implementation of the SWMP is expected to result in the protection of water quality standards. The permit does, however, contain a re-opener clause should new information indicate the discharges from the MS4 are causing, or significantly contributing to, a violation of the state's water quality standards.

b. Other Changes

The SWMP is a document prepared by the permittees to address the regulatory application requirements. The document is intended as a functioning mechanism for the permittees' use. Therefore minor changes and adjustments to the various SWMP elements are expected and desired. Incorporating this form of document into an OPDES permit has some inherent conflicts. The regulatory rules concerning permit changes and modifications do not easily translate to the minor changes that will be necessary to occur to the various elements during the permit term. The changes may be necessary to more successfully adhere to the true intent of the permit to reduce pollutants to the maximum extent possible. The DEQ has determined that these minor changes that are specifically described in the permit shall not be considered permit modifications as defined in the regulations. The permit must address the following unique issues: the incorporation of the SWMP; multiple entities as permittees; and the permit allowing an entire municipality subject to changes in boundaries and responsibilities. The DEQ has attempted to develop permit language to clarify the permit requirements concerning possible changes to the SWMP, permittees' status, and other changes inherently caused by these unique issues.

- (i) **Modify Existing Phase I Permit:** additional co-permittees may be covered by negotiated agreements with Phase II MS4 communities.
- (ii) **New or Terminated Permittees:** The process to cover any new permittees under the permit will require a modification to the permit pursuant to OAC 252:606-1-3(b)(3)(GG), (HH), and OAC 252.606-1-3(b)(4)(D) adopting and incorporating by reference 40 CFR 122.62, 122.63 and 124.5. The process for terminating coverage for an existing permittee shall adhere to the regulations OAC 252:606-1-3(b)(3)(II) adopting and incorporating by reference 40 CFR 122.64. A notice to terminate will be issued in accordance with permit procedures.
- (iii) **SWMP Changes:** The SWMP is intended as a functioning mechanism for the permittees' use. Therefore minor changes and adjustments to the various SWMP elements are expected. Incorporating this form of document into an OPDES permit has some inherent conflicts. The rules concerning permit changes and modifications do not easily translate to the minor changes that will be necessary to occur to the various elements during the permit term. The changes may be necessary to more successfully adhere to the goals of the permit. The DEQ has determined that these minor changes that are specifically described in the permit shall not be considered permit modifications as defined in the regulations. Part II.G.2 of the permit describes the allowable procedure for the permittees to perform additions and minor changes to the SWMP. This section in no way implies that the permittees are allowed to impact or change elements that directly related to permit conditions for the SWMP. Any changes requested by the permittees shall be reviewed by the DEQ. The DEQ has 60 days to respond to the permittees and inform them if the suggested changes will impact or change the SWMP's compliance with a permit requirement and therefore are either disallowed or require a formal permit modification procedure.

- (iv) Additions: It is the intent of the DEQ to allow the permittees to annex lands and accept the transfer of operational authority over portions of the MS4 without mandating a permit modification. Implementation of appropriate SWMP elements for these additions (annexed land or transferred authority) is required. Upon notification of the additions in the annual report the DEQ may require a modification to the permit based on the new information.

19. CONSIDERATIONS UNDER FEDERAL LAW

The discharge that is being controlled by the terms and conditions of this permit is the result of natural precipitation, and as such would continue to be discharged regardless of the DEQ action represented here. The terms of this permit require that the permittees minimize or reduce to the maximum extent practicable, pollutants in storm water runoff.

The DEQ has made a tentative determination that issuance of this permit will not adversely affect any listed endangered or threatened species, and/or their critical habitat.