THE CITY OF
TAHLEQUAH
OKLAHOMA

Stormwater Management Plan
2021-2026

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Executive Summary

Tahlequah is one of the oldest cities in Oklahoma. Many of the historic buildings were built within walking distance of the water. It is situated in the Illinois River Watershed. Due to its location, land size and population, Tahlequah is categorized as a Phase II City under the NPDES (National Pollution Discharge and Elimination System). It spans roughly 14 square miles and has a population of 16,201. The Town Branch and Stick Ross Branch join together to form Tahlequah Creek that travels roughly a mile from the confluence to the Illinois River, which is designated a State Scenic River that flows into Lake Tenkiller. Tahlequah Creek and Pecan Creek form two main drainage basins. Our municipal storm sewer system is a mix of ditches, pipes and storm drains that connect to these drainage basins which flow to larger bodies of water outside of the City limits.

Our Stormwater program has a dedicated Stormwater Program Manager and is housed at City Hall. It is funded by a monthly fee per water account (based on water meter size). We utilize available resources to satisfy the requirements of our OKR04 permit from ODEQ, Oklahoma Department of Environmental Quality.

This Stormwater Management Plan (SWMP) document provides descriptions of all activities that will be conducted on behalf of Tahlequah from the period of 2021-2026 to meet its obligations under the Oklahoma Department of Environmental Quality's (ODEQ) general permit OKR04 for Phase II Municipal Separate Storm Sewer System Discharges for Small Cities within the Oklahoma. This SWMP along with the Notice of Intent (NOI) constitutes the application for coverage under the OKR04 general permit. All six Minimum Control Measures (MCMs) have been addressed in this SWMP. In addition, the City of Tahlequah has not elected to incorporate the "Seventh MCM" into the SWMP in which the city could have continuous coverage for all future municipal construction activities. Each MCM has a number of Best Management Practices (BMPs) or "action steps". Appendices summarize the BMPs and provide measurable goals for each BMP, along with descriptions, and implementation schedules.

The ODEQ has an established Oklahoma Pollutant Discharge Elimination System (OPDES) permit program under the OKR10 General Permit for Construction Activities. The City of Tahlequah has the municipal authority to put "Stop Work" orders on construction sites that allow their crews to create conditions that would violate our permit. However, we hope to foster a cooperative environment with the local development community.

Every reasonable effort has been made to comply with all requirements in the State's OKR04 general permit for small Municipal Separate Storm Sewer Systems (MS4s). To help implement many aspects of the Phase II requirements, particularly regarding public education and public participation, the City of Tahlequah is working with GCSA, the Green Country Stormwater Alliance.

Introduction: Why Stormwater Management?

Goals of the program:

- *Protect water quality*
- *Reduce the discharge of pollutants to the "maximum extent practicable"*
- *Satisfy the appropriate water quality requirements of the Clean Water Act*

Why Stormwater Management? Most communities across the nation "manage" stormwater by directing the water through a system of pipes and ditches that eventually emptied into local tributaries. Little regard has been given to the environmental consequences of the system. Today, better understanding of the impacts of modern lifestyles on water quality has led to the recognition that stormwater is one of the largest contributors to water pollution worldwide. Therefore, a permitting process and regulations have been put in place to help lessen this impact.

Like many other small cities in the State of Oklahoma, the City of Tahlequah is required to have a permit to discharge stormwater outside the City limits. In order to attain a permit, the Oklahoma Department of Environmental Quality requires that the City develop, implement, and enforce a stormwater management program (SWMP). This program is designed to reduce the discharge of pollutants from our municipal storm sewer system to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.

Water Quality Issues The urban environment and its supporting activities respond to rainfall in a variety of ways. The rain runs off residential yards typically carrying fertilizers, pesticides, and yard wastes. Runoff from streets carries dust, heavy metals, oil and grease. Runoff from the commercial and industrial areas conveys a variety of pollutants associated with the activities in these areas. In all urban areas, but particularly where construction is taking place, heavy loads of sediment are washed from the soil stripped of its natural vegetative cover. The runoff and the pollutants it carries are usually conveyed through a system of underground pipes and above-ground open channels until it discharges to a natural stream. Stormwater runoff from lands modified by human activity causes adverse environmental impacts to surface waters by changing stream flows, destroying aquatic habitat and increasing pollutant loadings and concentrations. Runoff often contains sediment, nutrients, metals, pathogens, toxins and oxygen-demanding substances. When these pollutants are carried to streams, rivers, lakes, and wetlands they can impair water quality, cause habitat degradation and threaten beneficial uses of water.

History of Stormwater Regulations

A permitting program for stormwater discharges was established under the Clean Water Act as the result of a 1987 amendment. The Act specifies the level of control to be incorporated into the National Pollutant Discharge Elimination System or NPDES stormwater permitting program depending on the source (industrial versus municipal stormwater). These programs contain specific requirements for the regulated communities/facilities to establish a comprehensive stormwater management program or stormwater pollution prevention plan to implement any requirements of the total maximum daily load (TMDL) allocation. There are **two phases**:

- **Phase 1** In 1990 the EPA promulgated regulations for establishing water quality based municipal stormwater programs to address stormwater runoff from certain industrial and construction activities and from medium and large municipal separate storm sewer systems serving populations of 100,000 or greater. These "Phase I" regulations were incorporated into the existing NPDES permit rules that address point source dischargers. As a result, urban non-point source runoff became regulated as a point source.

- **Phase II** On December 8, 1999, EPA published final regulations that address urban stormwater runoff from cities under 100,000 population and counties that lie within the Urbanized Area as defined by the latest US Bureau of Census designation or otherwise designated by the ODEQ as being required to obtain coverage under the State's Phase II Stormwater Program. The ODEQ has primary jurisdiction over permitting and enforcement of the Phase II Stormwater Program for Oklahoma. On February 8, 2005, the ODEQ finalized their General Permit (OKR04) for Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma.

Basic Permit Requirements

The program must include the following basic components:

- Responsible party – Stormwater Program Manager
- Compliance with water quality standards
- Stormwater Management Plan
- Program plan review
- Creation of stormwater management related ordinances
- Stormwater pollution prevention plans for municipal projects
- Six minimum control measures (MCMs)
- Best management practices (BMPs)
- Measurable goals for each BMP
- Rationale for selected BMPs & measurable goals
- Public participation & education
- Inspection procedures (including dry weather field screening)
- Construction Inspection Program
- Quarterly Facilities Inspections
- Annual Report
- Annual evaluation of BMPs
- Appropriate provisions for any special requirements
- Dry weather field screening

Typical Pollutants of Concern Found in Stormwater:

Contaminant	Sources
Sediment	Streets, lawns, driveways, roads, construction activities, atmospheric deposition, drainage channel erosion
Floating trash	Streets, lawns, driveways, roads, construction activities, uncovered dumpsters, littering, single use plastic items
Pesticides & Herbicides	Residential lawns & gardens, roadsides, utility right-of-ways, commercial landscaped areas, soil wash-off
Organic Materials	Residential lawns & gardens, commercial landscaped areas, animals wastes, tree leaves, grass clippings
Metals	Automobiles, bridges, atmospheric deposition, industrial areas, corroding metal surfaces, combustion processes, man-made and naturally occurring erosion, dumping & improper disposal of batteries, appliances, etc.
Oil & Grease/Hydrocarbons	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, illicit dumping to storm drains
Bacteria & Viruses	Lawns, roads, leaky sanitary sewer lines, sanitary sewer cross-connections, animal waste, septic systems
Nitrogen & Phosphorus	Lawn fertilizers, atmospheric deposition, automobile exhaust, soil erosion, animal waste, detergents

Oklahoma Water Quality Standards

Oklahoma Water Quality Standards: The foundation of Oklahoma's water quality protection efforts is its standards. Oklahoma's Water Quality Standards are a set of rules adopted by Oklahoma in accordance with the federal Clean Water Act. The standards provide a baseline against which the quality of waters of the state are measured. The Oklahoma Water Resources Board holds the statutory authority to develop the standards. These standards serve a dual role: they establish water quality baseline and provide a basis for the development of water-quality based pollution control programs, including discharge permits. The standards comprise three components: beneficial uses, criteria, and anti-degradation policy. For more information on Oklahoma's Water Quality Standards contact the Oklahoma Water Resources Board.

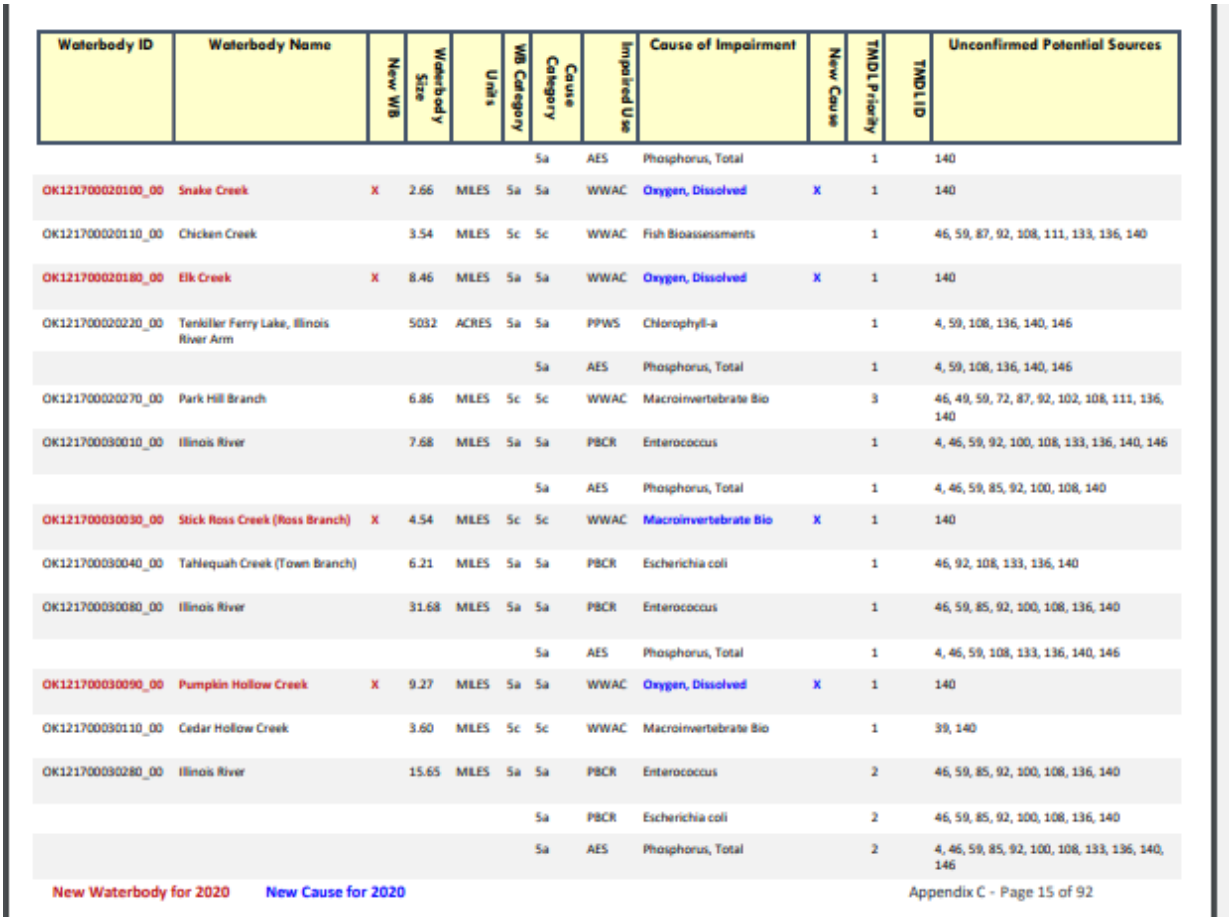
Beneficial Uses: Beneficial use of water is a fundamental requirement in the administration of water rights. Beneficial uses are the ways in which water is used by humans and wildlife. They include agriculture, irrigation, drinking water supply, hydroelectric power generation, municipal, industrial, navigation, recreation, and fish and wildlife propagation.

What constitutes impairment? Determining impairment is a complicated process. All water bodies that violate water quality criteria are not considered impaired. For scientific and legal purposes the following definition is most often used: *Water quality is the ability of a water body to support all appropriate beneficial uses.* If water supports a beneficial use, water quality is said to be good or unimpaired. If water does not support a beneficial use, water quality is said to be poor or impaired.

Total Maximum Daily Loading (TMDL)

Currently Tahlequah's receiving waters are not impacted by a TMDL. This status could change in the future, but no information is available about an active study. The TMDL program is targeted at impaired water bodies. A total maximum daily load is the total amount of pollutant that a given water body can assimilate and still meet state water quality standards. The term also describes the process of calculating such a load and allocating portions of the load to various sources of pollution in the study area. The end result of a TMDL exercise is to identify pollutant sources and to recommend the reductions necessary to meet applicable water quality standards. Oklahoma has two types of TMDLs described below.

1. *Notification TMDL* (which means that a TMDL was already established but cities will be notified by the ODEQ when they must begin addressing the TMDL requirements).
2. *EPA Approval TMDL* (TMDL requirements will begin as soon as the TMDL is approved)



Waterbody ID	Waterbody Name	New WB	Waterbody Size	Units	WB Category	Cause Category	Impaired Use	Cause of Impairment	New Cause	TMDL Priority	TMDL ID	Unconfirmed Potential Sources
						5a	AES	Phosphorus, Total		1		140
OK121700020100_00	Snake Creek	X	2.66	MILES	5a	5a	WWAC	Oxygen, Dissolved	X	1		140
OK121700020110_00	Chicken Creek		3.54	MILES	5c	5c	WWAC	Fish Bioassessments		1		46, 59, 87, 92, 108, 111, 133, 136, 140
OK121700020180_00	Elk Creek	X	8.46	MILES	5a	5a	WWAC	Oxygen, Dissolved	X	1		140
OK121700020220_00	Tenkiller Ferry Lake, Illinois River Arm		5032	ACRES	5a	5a	PPWS	Chlorophyll-a		1		4, 59, 108, 136, 140, 146
						5a	AES	Phosphorus, Total		1		4, 59, 108, 136, 140, 146
OK121700020270_00	Park Hill Branch		6.86	MILES	5c	5c	WWAC	Macroinvertebrate Bio		3		46, 49, 59, 72, 87, 92, 102, 108, 111, 136, 140
OK121700030010_00	Illinois River		7.68	MILES	5a	5a	PBCR	Enterococcus		1		4, 46, 59, 92, 100, 108, 133, 136, 140, 146
						5a	AES	Phosphorus, Total		1		4, 46, 59, 85, 92, 100, 108, 140
OK121700030030_00	Stick Ross Creek (Ross Branch)	X	4.54	MILES	5c	5c	WWAC	Macroinvertebrate Bio	X	1		140
OK121700030040_00	Tahlequah Creek (Town Branch)		6.21	MILES	5a	5a	PBCR	Escherichia coli		1		46, 92, 108, 133, 136, 140
OK121700030080_00	Illinois River		31.68	MILES	5a	5a	PBCR	Enterococcus		1		46, 59, 85, 92, 100, 108, 136, 140
						5a	AES	Phosphorus, Total		1		4, 46, 59, 108, 133, 136, 140, 146
OK121700030090_00	Pumpkin Hollow Creek	X	9.27	MILES	5a	5a	WWAC	Oxygen, Dissolved	X	1		140
OK121700030110_00	Cedar Hollow Creek		3.60	MILES	5c	5c	WWAC	Macroinvertebrate Bio		1		39, 140
OK121700030280_00	Illinois River		15.65	MILES	5a	5a	PBCR	Enterococcus		2		46, 59, 85, 92, 100, 108, 136, 140
						5a	PBCR	Escherichia coli		2		46, 59, 85, 92, 100, 108, 136, 140
						5a	AES	Phosphorus, Total		2		4, 46, 59, 85, 92, 100, 108, 133, 136, 140, 146

New Waterbody for 2020 New Cause for 2020

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Understanding Tahlequah's Drainage

Tahlequah is located in the Ozarks region which covers much of Northwest Arkansas and Southwest Missouri. Unique characteristics like geological formations, lush forests and clear mountain streams create the spectacular atmosphere of the Ozarks. Beautiful scenery and bountiful outdoor recreation attract tourism to this area. The natural world is an important part of daily life here and water quality is crucial to the local economy. The City of Tahlequah is the oldest municipality in Oklahoma by virtue of an incorporation act by the Cherokee National Council of 1843, more than half a century before Oklahoma gained statehood. It was built alongside a tributary to the Illinois River long before stormwater was recognized as a problem and more of the Nation's rivers were still running wild, clear and pollutant free.

Today it is considered one of the fastest growing small cities in the state. According to the 2000 census, 14,458 people inhabited the 12.5 square miles that make up the City. Now, the population is estimated at more than 16,000 and is steadily increasing. As the population increases, the rate of pollution in the local watershed will also increase. Since the City of Tahlequah has a municipal separate storm sewer system (MS4), and an overall population of over 10,000 people with a population density of 1,000 people per square mile, it is considered a Phase II city by the United States Environmental Protection Agency and the Oklahoma Department of Environmental Quality. Phase II stormwater regulations require Tahlequah to become permitted under a municipal separate storm sewer system permit called OKR04. There are 48 Phase II entities across the state. Each Phase II city must create a program that will work best with its physical conditions, local resources, and underlying issues.

The City of Tahlequah's stormwater is considered a point source pollutant because it is collected off streets into drains and piped into streams. City stormwater runoff is channeled into three main tributaries, Pecan Creek, Stick Ross Creek, and the Tahlequah Creek (known as The Town Branch). Pecan Creek connects with Ranger Creek and flows into Lake Ft. Gibson, 16 miles to the west. Tahlequah Creek and Stick Ross Creek connect and flows into the Illinois River.

The Oklahoma Water Quality Standards prohibits new point source discharges of any pollutant or increased load of any pollutant from existing point source discharges into Outstanding Resource Waters or their watersheds. Tahlequah's permitting situation is unique in that it is the only small city with a Phase II City classification in the state of Oklahoma that has tributaries flowing into an outstanding resource water of the state. The Illinois River has a Scenic Rivers designation which qualifies it as an outstanding resource water body.

The monitoring component of Tahlequah's OKR04 permit is not required by any other Phase II city in Oklahoma. The general philosophy behind the ODEQ's OKR04 permit is that it assumes that pollutant loads will be reduced as long as an effort is being made to manage stormwater. However, since much of Tahlequah's stormwater flows into a tributary of a scenic river, and then on into the river itself, the City may need to establish a quantitative pollutant reduction mechanism. Monitoring total maximum daily loads (TMDLs) for pollutants may be necessary and can be very costly. The challenge faced is two-fold: funding a monitoring program and figuring out how to reduce pollutant load once it is established.

The Illinois River Watershed: The Illinois River begins in Northwest Arkansas and makes its way southwest crossing the state line of Oklahoma, then it turns south. It joins the Barron Fork River south of Tahlequah and empties into Lake Tenkiller. Lake Francis also sits in the watershed. Several tributaries join the river along the way. The Lower Illinois below the dam at Tenkiller is a colder stream that facilitates trout fishing. It travels on to meet the Arkansas River.

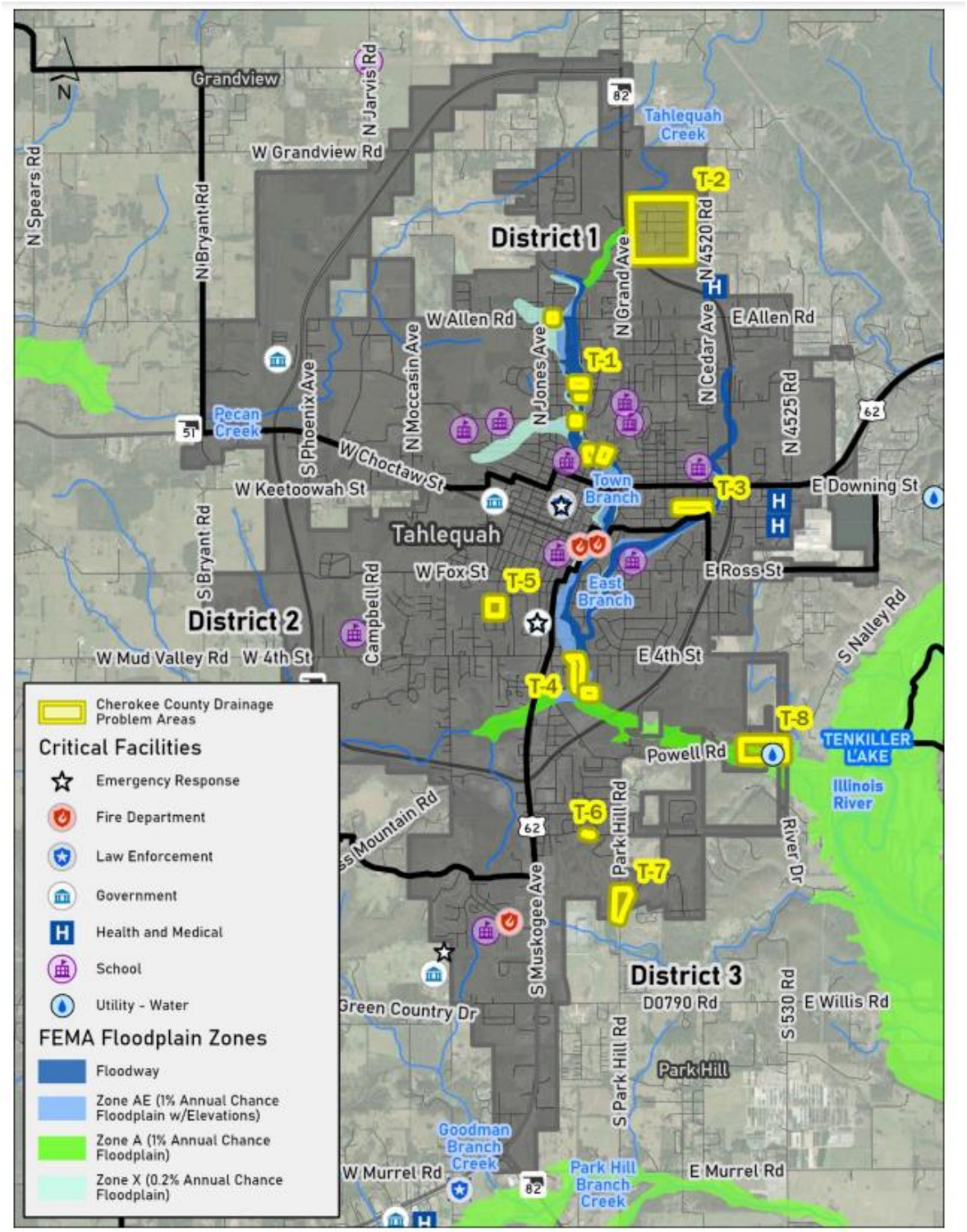
303d List Impairments: Special activities will be implemented to target impairment in receiving waters on the State's 303d list. The two waterbodies listed below are receiving waters impacted by Tahlequah's drainage system.

	Waterbody Name	WBID	Impairment Causes
1	Tahlequah Creek (Town Branch)	OK121700030040_00	E. Coli
2	Stick Ross Branch of TC (Ross Branch)	OK121700030030_00	Macroinvertebrate Bio

Significant Pollutants identified:

1. Sanitary Sewer Overflows
2. Animal Waste
3. Septic Systems
4. Illegal Dumping
5. Waste water connections to storm sewer
6. Accidental Dumping
7. General Construction Site mis-management
8. Accidental spills of pollutants

In the graphic below, Tahlequah's City limits is delineated in dark gray, the floodplain is shaded blue, light blue and green.



Map is from 2021 City of Tahlequah & Cherokee County Emergency Management Plan

Allowable Discharges & Conditions

Most non-stormwater discharges to the MS4 are prohibited. However, the following discharges and are considered allowable discharges by the ODEQ:

a. diverted stream flows;

b. uncontaminated discharges from riparian areas and wetlands;

c. uncontaminated ground water or spring water;

d. residential building wash water that does not use detergents, solvents, and/or soaps;

e. uncontaminated pumped ground water;

f. uncontaminated ground water infiltration;

g. uncontaminated discharges from potable water sources, including water line flushing and fire hydrant flushing;

h. foundation drains;

i. air conditioning condensate;

j. water from crawl space pumps;

k. footing drains;

l. residential, non-commercial, and charity car washing;

m. landscape irrigation and lawn watering, provided all pesticides, herbicides, and fertilizers that have been applied in accordance with the approved manufacturers' instructions and/or labeling;

n. uncontaminated and dechlorinated swimming pool discharges;

o. street wash water, including wash water generated from the washing of other impervious surfaces such as sidewalks and parking lots, that does not use detergents, solvents, and/or soaps;

p. discharges in compliance with a separate Oklahoma Pollutant Discharge Elimination System (OPDES) or National Pollutant Discharge Elimination System (NPDES) permit;

q. discharges of gray water from municipal splash pads (aka, spray parks or spray grounds), as defined in 27A O.S. § 2-6-107, unless otherwise permitted or regulated by DEQ, provided the discharges comply with all applicable municipal or county

ordinances enacted pursuant to law (discharges from recirculating systems shall be dechlorinated); and

r. discharges or flows from emergency firefighting activities or training activities that are not taking place at a permanent facility, provided procedures are in place for the Incident Commander, Fire Chief, or other on-scene firefighting official in charge to make an evaluation regarding potential releases of pollutants from the scene.

Non-stormwater discharges are authorized only under the following conditions:

a. Discharges are insignificant sources of pollutants to your small MS4 because of the nature of the discharges or because of the conditions you have established for allowing these discharges to occur. See below for list:

- Power-washing is allowed as long as BMPS are in place to keep wash water out of the street and storm drains. Low phosphorus, bio-degradable soap must be used if being directed to a grassy area. De-watering BMPs preferred unless job is cleaning a street or sidewalk. If no soap or solvent used, the discharge can be allowed.
- Charity car washes are encouraged to use low phosphorus, bio-degradable soap though we have no permitting process due to the nature of activity.

b. Document in your SWMP any local controls or conditions placed on discharges.

c. Include a provision in your SWMP prohibiting any individual non-stormwater discharge that is determined to be contributing significant amounts of pollutants to your MS4.

d. Discharges mixed with non-stormwater are unauthorized unless such discharges are in compliance with a separate OPDES or NPDES permit, or determined not to be a substantial contributor of pollutants to waters of the State in accordance OKR04 permit.

e. Discharges associated with industrial activity are unauthorized.

f. Stormwater discharges associated with construction activity, are unauthorized except as provided by this permit.

e. Stormwater discharges currently covered under another permit are unauthorized.

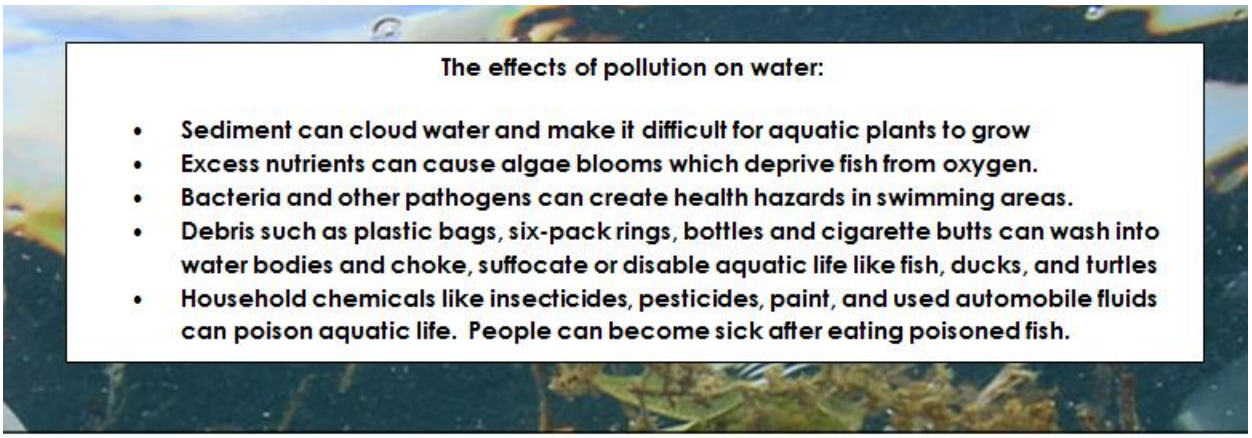
f. Discharges exceeding water quality standards are unauthorized.

g. DEQ may require corrective action or an application for an individual permit or alternative general permit if a small MS4 is determined to cause, have the reasonable potential to cause, or contribute to an exceedance of water quality standards.

h. Discharges not consistent with a TMDL are unauthorized. Discharge of a pollutant into any water for which a TMDL, or watershed plan in lieu of a TMDL, for that pollutant has been either established or approved by DEQ or U.S. Environmental Protection Agency (EPA) is prohibited unless your discharge is consistent with that TMDL, or watershed plan.

i. Discharges originating on Indian Country are unauthorized. Stormwater discharges from MS4s or construction activities occurring on Indian Country, are not under the authority of DEQ and are not eligible for coverage under this permit. If discharges of stormwater require authorization under federal NPDES regulations, a permit for these discharges must be obtained from the EPA.

j. Discharges of material resulting from a spill are unauthorized. 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 ensure the party responsible for the spill takes reasonable and prudent measures to minimize the impact of discharges on human health and the environment. These responsibilities may be in the form of a spill prevention and response plan or through implementation and legal enforcement of other BMPs developed to satisfy the MCMs.



New Permit Cycle 2021-2026 Changes

General Requirements For Phase II, Category 2 Cities Pertaining to Tahlequah:

MCM 1: Implement & enforce a program (once per year) to distribute information and promote behavior change to reduce pollutants in stormwater discharges to your MS4:

- Education & involvement efforts shall identify an appropriate target audience
- In coordination with MCM2: Implement an education and Involvement program for local industries and conduct staff training. **NOT APPLICABLE**
- In coordination with MCM 3: Implement an education & involvement program for public employees, business, and the general public. Promote, publicize, facilitate the reporting of illicit discharges & conduct staff training.
- In coordination with MCM 4: Implement an education & involvement program for the local development community. Implement & enforce procedures for the receipt and consideration of information submitted by the public, and conduct staff training.
- Implement an education & involvement program for in coordination with MCM 5
- Implement an education & involvement program for developers and the public
- In coordination with MCM 6: Conduct staff training.
- Include a process to receive and review public comments on your SWMP.
- Comply with state and local public notice requirements when implementing your program.
- Make your records including the NOI and SWMP, available to the public.
- If you discharge to waters identified on the 303 (d) list of impaired waters, your program must be directed toward entities likely to have a significant stormwater impact on those impaired waters.
- Must have 4 Public Education & 2 Public Involvement Activities per year

MCM 2: NOT APPLICABLE TO CATEGORY 2 CITIES

MCM 3: Implement & enforce a program to detect and eliminate illicit discharges into your MS4:

- Incorporate dry weather field screening (DFWS) procedures.
- Implement & enforce ordinances.
- Maintain a storm sewer system map.
- Maintain a list of occasional incidental non-stormwater discharges.
- DFWS at outfalls 40% per year, DFWS at high priority areas once per year.

MCM 4: Implement & enforce a program to reduce pollutants in stormwater runoff from stormwater runoff from construction activities that discharge into your MS4:

- Implement and enforce ordinances.
- Implement and enforce procedures for site plan review.
- Implement and enforce procedures for site inspection and enforcement.
- Inspect all permitted sites over an acre in size once a month due to upcoming TMDL and other criteria that require a monthly inspection frequency.

MCM 5: Implement & enforce a program to address stormwater runoff from new development and redevelopment projects that discharge into your MS4:

- Implement and enforce ordinances.
- Implement and enforce procedures to ensure adequate long-term operation and maintenance of BMPs.
- Identify and remove legal/regulatory barriers to LID; identify and implement opportunities to implement LID.
- Assess street and parking lot designs/guidelines and implement LID options

MCM 6: Implement & enforce an operation and maintenance program to prevent or reduce pollutant runoff from MS4 operations:

1. Maintain an inventory of MS4 operations.
2. Maintain a list of MS4 facilities subject to the OKR05 permit.
3. Implement and enforce procedures to control, reduce, or eliminate discharge of pollutants from MS4 operations.
4. Implement and enforce procedures to ensure new flood management projects are assessed for impacts on water quality.
5. Implement contractor requirements and oversight.
6. Implement and enforce procedures for inspection and maintenance for BMPs.
7. Site Inspections at OKR05 sites: once per quarter
8. Site Inspections at MS4 Facilities: once per year

Six Minimum Control Measures (MCMs) and Best Management Practices (BMPs)

Six Minimum Control Measures: The ODEQ requires the use of six minimum control measures in the creation of stormwater management and pollution prevention programs.

1. **Public Education** & **Involvement**
2. **Industrial Stormwater Runoff Control** (not applicable to City of Tahlequah at this time)
3. **Illicit Discharge Detection and Elimination**
4. **Construction Runoff Management**
5. **Post-Construction Runoff Management**
6. **Municipal Good Housekeeping**

Best Management Practices: The City of Tahlequah will implement best management practices or BMPs for each of the minimum control measures listed above. We will develop implementation schedules, and establish measurable goals for each BMP. Best management practices are activities that the City chooses to fulfill permit requirements. There are no specific BMPs required nor are there a certain number of BMPs required, however it is expected that there will be a range of BMPs offered for each of the six minimum control measure categories. The tables listed in Appendix A are used as a checklist but also as a reporting tool for the annual report. We follow a fiscal year reporting cycle. Items with a (*) star beside the number are part of the extra activities that we implement to reduce pollution in 303d listed receiving waters.

1. Public Education, Participation & Outreach

Permit Requirements: Develop and implement a plan to encourage public education, involvement and participation in the creation of a stormwater management program. Develop and implement a process by which public comments are received and reviewed by program manager. Make the stormwater management plan and the notice of intent available to the public. Comply with State and Local public notice requirements when implementing the program. Distribute information and educational materials to the community and to conduct outreach activities related to the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants. As a category 2 city, we will be required to offer 4 public education and public participation events per year.

Rationale: An informed community is essential for the success of the Stormwater Program. Selected best management practices are intended to increase the community's understanding of sources and environmental impacts of stormwater pollution and ways to reduce the amount of pollutants. The goal is to encourage behaviors and practices which will result in environmental benefit for the community.

Action: A multi-media approach will be used in Tahlequah's program: brochures, website, social media outreach, education programs at appropriate events. The City of Tahlequah's program will also sponsor, organize or facilitate public events and public meetings. See the tables below for Tahlequah's Annual Activities calendar & Public Outreach Schedule.

Tahlequah Stormwater Annual Schedule for Public Outreach Materials					
	To be updated Fall 2023				
	Concrete BMP's				
	After the Storm EPA brochure?				
	Septic Maintenance?				
	Business BMP's				

Tahlequah Stormwater Monthly Activities Calendar	
January	Stock brochure racks Provide training to staff such as Public Works & Parks Inspect City Facilities
February	
March	
April	Quarterly Inspections (request report from Permitted Facilities)
May	
June	Address unfinished BMPs
July	Stock brochure racks, Quarterly Inspections (request report from Permitted Facilities)
August	Prepare Annual Report
September	Participate in Community Clean-up
October	Submit Annual Report to ODEQ Quarterly Inspections (request report from Permitted Facilities)
November	
December	

2. Industrial Stormwater Inspections

This BMP is only required for MS4's over 50,000 population; therefore it is not applicable to Tahlequah at this time.

3. Illicit Discharge Detection and Elimination

Permit Requirements: Develop, implement and enforce a program to detect and eliminate illicit discharges into MS4, including a dry weather field screening program to identify non-stormwater flows and illegal dumping. Develop a storm sewer map, showing the location of all outfalls and the names and location of all waters of the state that receive discharges from those outfalls. Prohibit non-stormwater discharges into MS4 system by implementing appropriate enforcement procedures through ordinances and regulatory mechanisms for violations. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Develop a list of occasional incidental non-stormwater discharges or flows that will not be addressed as illicit discharges. Respond to complaints within 72 hours.

Rationale: Mapping the stormwater sewer and drainage system will allow us to become more familiar with the physical realities of our water flows. Creating ordinances prohibiting non-stormwater discharges will provide us local regulatory controls.

Action: The City of Tahlequah has a mapping program and will continue to utilize this program to assist in detecting and eliminating illicit discharges. We will continue to do outreach, respond to complaints, conduct Dry Weather Field Screening on 40% of our outfalls each year, point source track and resolve issues. We will continue to work to improve municipal operations.

Spills: Large spills are handled by the Fire Department. They are HAZ-MAT trained.

Procedures for Handling Illicit Discharges:

1. Investigate situation & take photographs of site.
2. Record description of incident with exact location.
3. Determine if it is something that can be easily remedied.
4. Determine responsible party and make contact.
5. Try to gain compliance and work with the responsible party if possible.
6. Determine if Code enforcement should be contacted.
7. Determine if incident is an abatement issue.
8. Determine if a criminal offense has been committed and if so, contact police.
9. Write incident report.
10. Contact Emergency Management if hazardous material is present.
11. Call local Cherokee County ODEQ for assistance if needed. (ECLS)

Dry Weather Field Screening: Tahlequah is required to record the physical conditions of our drainage outfalls on an annual basis during dry weather. This is called Dry Weather Field Screening. Outfalls are not clearly defined by the State. Each community must create a definition of an outfall that make sense for their program. The goal is to catch flowing water that should not be flowing if it has not rained for 10 days. Generally, it means there is some sort of leak in a water line or sewer line or something is being drained. Flowing water that is not stormwater is referred to as a discharge. Only rain is supposed to go into storm drains, unless the discharge is listed on the State's "allowable discharges" list or is allowed by the City with conditions.

Tahlequah's definition of an outfall is: *places where our MS4 connects to our stream system*. Currently there are approximately 25 outfall locations listed on the mapping software that we utilize, and we will do a physical inventory to determine whether that should be expanded. We are in the process of contacting NSU's Stream Science Department to ask for assistance with modifying our DWFS program.

The program was originally set-up where we would walk a certain amount of stream miles per year which was not effective and would be difficult to meet the ODEQ's 40% annual outfall inspection requirement. **(chart below is in progress)**

	Outfall Locations	Type of Outfall		
1	Grant / contract with Freese &Nichols to be completed			
2	Sometime this fiscal year to plot all outfalls.			
3				

4. Construction Site Stormwater Runoff Management

Permit Requirements: Develop, implement and enforce a program to reduce pollutants in any stormwater runoff to MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges.

Rationale: This measure is to provide education and enforcement to ensure that construction sites implement BMPs to reduce the amount of pollutants in stormwater.

Action: The City will review and amend existing ordinances if needed to include regulations to control the stormwater runoff from construction sites that disturb greater than or equal to one acre, including projects less than one acre that are a part of the larger common plan of development or sale that discharge into the City's MS4. The program must ensure that controls are in place that would minimize water quality impacts. Sections shall address erosion control, stormwater pollution, permit requirement, plan reviews, penalties and BMPs.

Inspection and Enforcement Procedures: Inspections and referrals for construction sites can be made by building inspectors, code enforcement and stormwater staff. Inspections will also be conducted in response to citizen complaints. We will strive to foster cooperation and support from the local development community.

5. Post-Construction Runoff Management

Permit Requirements: Develop, implement and enforce a stormwater runoff program to address new development and structural and or non-structural best management practices appropriate for the community. Create ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects. Ensure adequate long-term operation and maintenance of best management practices.

Rationale: The goal of this measure is to reduce the amount of stormwater runoff created by the footprint of new development and to increase stormwater infiltration where possible.

Action: The City of Tahlequah will review ordinances for barriers to low impact development. The City will evaluate and attempt to preserve open spaces, map out areas with existing drainage swales, make efforts to increase tree coverage, encourage stream bank stabilization, and encourage retrofits of existing properties where possible.

6. Municipal Good Housekeeping

Permit Requirements: Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from MS4 operations. Develop and use training materials for employees training to prevent and 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. Inspect City facilities.

Rationale: Municipalities that take a proactive approach to Stormwater Management are less likely to be contributors to pollution in their own MS4s.

Actions: Employee Training will be offered. The City will inventory municipal operations and activities that contribute to stormwater pollution, assess infrastructure improvements needed, etc. Activities that result in measureable pollution reduction such as street sweeping will be tracked. Municipal facilities will be inspected once per year unless they are permitted facilities and then they will be required to submit quarterly inspection reports to Stormwater Dept.

Special Conditions

Discharges to Impaired Waters: If the receiving waters of the permittee are on the State of Oklahoma Water Resource Board's list of Impaired Waters called the 303 d list, extra BMPs must be applied. Tahlequah has selected extra BMP's listed under MCM 3 to address our impaired waters.

Outstanding Resource Waters:

A comprehensive monitoring program will be created to address the issue of controlling pollutants in tributaries of the Scenic Illinois River. This monitoring system will be created with the assistance of Northeastern State University Biology Department, United States Geological Survey, INCOG, Tahlequah Public Works Authority, and other entities that may be called upon to guide the City with their expertise in water quality and monitoring. TMDLs may be determined. Components of the monitoring program will include:

A. Biological
B. Analytical
C. Physical

Parameters that are likely to be measured are:

pH
Dissolved oxygen
Temperature
Conductivity
Turbidity
Optical brighteners
Velocity

The goals of the Monitoring Program may be:

1. Protect, maintain, and restore high quality chemical physical and biological conditions in the water of the state of Oklahoma according to the anti-degradation policy.
2. Reverse the past trends of stream deterioration through improved water best management practices (BMPs);
3. Maintain physical, chemical, biological, and stream habitat conditions in city streams, that support aquatic life, along with appropriate recreational, water supply, and other water uses.

4. Restore streams damaged by inadequate water management practices of the past by reestablishing the flow regime, chemistry, physical conditions, and biological diversity of natural stream systems as closely as possible.
5. Promote and support educational and volunteer initiatives that enhance public awareness and increase direct participation in stream stewardship and the reduction of water pollution.

Visual inspections

Currently, the only types of monitoring being conducted are visual inspections. An integral part of a field inspection program is recording visual observations of site conditions. EPA has developed guidance as have many other agencies and organizations. Field observations are easily recorded on a 1 to 2 page field form, and the date can be entered later into a computer database for analysis and reporting. See next page or our current reporting format.

Due to limited manpower, ODEQ only expects 15% of our stream miles to be inspected and reported on each year. However, it is up to us to inspect as frequently as we like when more manpower is available and weather permits. Visual inspections are the best way to know what is going on in your watershed.

Typical field observations useful in a storm water inspection are:

- Water velocity (estimated by timing a floating object)
- Width and depth of a cross-section of stream or pool of water
- Color of water
- Color of stream banks especially stains or discolorations
- Odors of water
- Odors within the vicinity
- Excessive algae growth
- Dead or dying vegetations by stream channel or next to a potential source
- Trash or debris (floating small items as well as large objects)
- Dead animals
- Lawn clippings or other materials (e.g., bags of leaves)
- Car batteries appliances, other identifiable home items;
- Unidentifiable barrels or other containers with indeterminate markings;
- Oily sheen on water surface
- Excess buildup of silt, sediment, dirt, or other fine particles;
- Opacity of water (turbidity due to suspended particulates such as silt);
- Foam or suds;
- Types of descriptions of adjacent land uses;

- Descriptions of adjacent and upstream facilities, residences or other potential sources of pollution
- Interviews and comments from neighbors and adjacent landowners and facility staff.

Field Measurements and Test Kits

The OKR04 General Permit for small MS4 stormwater discharges does not specify types of field test kits to use nor any types of field measurements to make when performing dry weather field screening or source tracking inspections. Each city will develop an inspection program to suit its own unique circumstances and conditions.

Visual Inspection/Dry Weather Field Screening Program
2023 Inspection Report

Inspector	Area Inspected	Codes	Sections	Main Concerns
	In planning stages with GRDA			**None in use at this time**

Date	Section	Direction	Miles

The following Dry Weather Field Screening Evaluation forms were completed by my predecessor Mohamed Bassime 1.2, 3.4, 5.6, 7.8 on 06-16-2022. He also conducted inspections of 9.10, 11.12, 13, and 14 on 06/21/2022. Additional inspections of 16, 17, and 18.19 were completed on 06/24/2022. I am currently attempting to locate the numbering system of the outfalls.

Conditions:

Flow	Appearance	Smell	Discharges	Biology	Floatables
Gentle, Low	**Clear**	**Normal**	**None**	**Healthy**	**None in use currently**

Summary: Overall health of the stream looks good, stream life seemingly healthy and active. Flora and fauna seems lush and thriving. Due to multiple staffing changes we are currently talking with GRDA, Northeastern State University, and the Oklahoma Conservation Commission to develop regular stream testing protocol to ensure stream health.

Conclusion: No traces of illicit discharges in the areas inspected, trash seemed not intentional or excessive, and streams seems healthy. (Additional testing and monitoring is in progress).

Actions Recommended: Clean up Tahlequah Creek and community events being planned for Fall 2023 and Spring 2024**.**

Action Taken: None, Clean up group not organized as of this report date.

Next Time: Photos to follow.

SEE APENDEX B

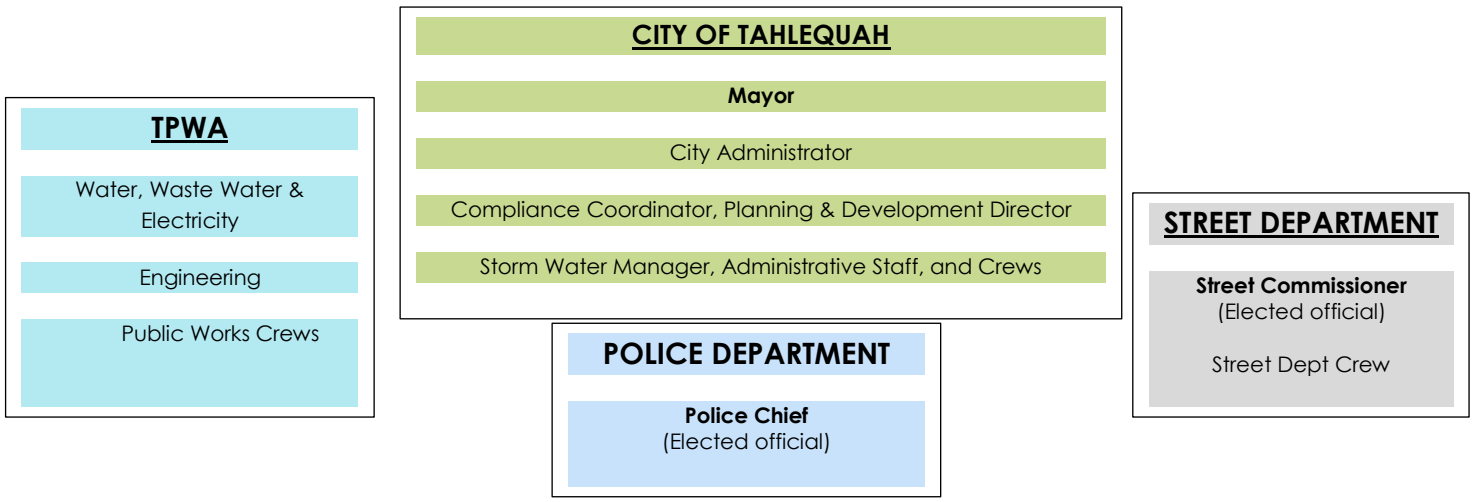
Procedures for handling Illicit Discharges

1. Take photographs of site.
2. Write physical coordinates & description of incident location.
3. Determine if code enforcement should be contacted.
4. Determine if incident is an abatement issue.
5. Determine if a criminal offense has been committed.
6. Write incident report.
7. Report incident to city police department (environmental crimes contact) or county sheriff's department if criminal offense.
8. Prosecution will be handled through the District Attorney's Office.
9. Contact Emergency Management is hazardous material is present.
10. Call Cherokee County DEQ for assistance if needed.
11. Coordinate with Emergency Management/Cherokee County DEQ.
12. Determine if remediation is possible and do cost analysis.
13. If prohibitive add to list of areas in need of remediation.

TMDL's: If the receiving waters of the permittee have a TMDL (Total Maximum Daily Load) assigned to them, other actions will be necessary. Tahlequah is not under a TMDL at this time.

Program Management

City of Tahlequah Stormwater Program Organizational Chart



City of Tahlequah

- **Mayor** Tahlequah's Mayor is the City Manager, though most management of daily operations is designated to City Administrator. The Mayor presides over City Council
- **City Administrator** (along with Mayor) oversees municipal operations and is authority over all city staff and controls municipal budget. City Administrator answers to the Mayor and the City Council.
- **IT Department** assists with developing public outreach campaigns, brochures, graphics, marketing, and technology services. Answers to the Mayor and City Admistrator.
- **Director of Planning & Development** The Development Office is made up of administration & permitting staff, building inspection, code enforcement, plan review staff, and stormwater. Engineering services are contracted out. Director of Planning & Development and other Development staff answer to the City Administrator and the Mayor.
- **Stormwater Program Manager** manages SW Program, prepares plans, coordinates public education & public participation, prepares annual reports, conducts inspections & dry weather field screening, maintains database of reports, reviews plans, etc.
- **Building Inspector** is the primary building inspection official, also has stormwater inspection & code enforcement duties. Assists SW as needed.
- **Code Enforcement Inspectors** have designated areas. Assist SW as needed.
- **Parks Department** Responsible for maintaining of parks and recreation, mowing, maintaining swimming pools and water parks, etc. Answers to the City Administrator and the Mayor.

- **Fire Department** provides fire services, emergency management, spill containment & clean up. Answers to the City Administrator and the Mayor.
- **Solid Waste Department** provides trash services, maintains recycling facility, holds recycling events and big trash events. Answers to the City Administrator and the Mayor.

TPWA

- **Tahlequah Public Works Authority** oversees Sanitary Sewer, Water & Wastewater Treatment and Drainage Maintenance at Tahlequah Public Works Authority or TWPA. Provides some engineering services. Answers to Public Works Authority Board which includes the Mayor.
- **Public Works Crews** does projects such as installing sewer and water lines and making repairs. Utility crews discover, report and reverse illicit connections. Answer to Public Works Director.

Street Commission

- **Street Commissioner** (Elected Official) Over Street Department duties such as road construction and repair. Overlays new asphalt. Picks up limbs & debris. Answers to voters. City Council controls salary.
- **Street Commission Crews** (Answer to Street Commissioner)

Tahlequah Police Department

- **Police Chief** (Elected Official) Over police department.
- **Police Department Staff** Answer to Police Chief.

Program Costs

Projected Budget A budget supporting current needs and activities is prepared annually. Stormwater fees are based on water meter size because the collection system was already in place and it shows type use and relative size associated with the user. The average residential user pays $2.00 per month. **Stormwater Fees** are listed below:

Stormwater Fees / Per Month		
	Water Meter Size	**Fee**
1	Residential	$2.00
2	Commercial	$4.00
3	Commercial / Industrial	$10.00

Budget Estimate:

Stormwater Fees	Avg Rate	Frequency	# Utility Customers	Est. Total Per Year
Customers	$2.00 per unit	monthly	7764 water meters	$209,450.37

Stormwater fees are used to pay for costs related to managing the Stormwater Program such as staffing, training, equipment, vehicles, mapping, outreach efforts and consultant services. Special projects can be funded if they help reach the goals of the 6 Minimum Control Measures.

Target Audience

Tahlequah is located in the Ozarks region which covers much of Northwest Arkansas and Southwest Missouri. Unique characteristics like geological formations, lush forests and clear mountain streams create the spectacular atmosphere of the Ozarks. Beautiful scenery and the daily life here and water quality is crucial to the local economy.

The City of Tahlequah is the oldest municipality in Oklahoma by virtue of an incorporation act by the Cherokee National Council of 1843, more than half a century before Oklahoma gained statehood. It was built alongside a tributary to the Illinois River long before stormwater was recognized as a problem and more of the Nation's rivers were still running wild, clear and pollutant free. Today it is considered one of the fastest growing small cities in the state. According to the 2000 census, 14,458 people inhabited the 12.5 square miles that make up the City. Now, the population is estimated at more than 16,000 and is steadily increasing. As the population increases, the rate of pollution in the local watershed will also increase.

Since the City of Tahlequah has a municipal separate storm sewer system (MS4), and an overall population of over 10,000 people with a population density of 1,000 people per square mile, it is considered a Phase II city by the United States Environmental Protection Agency and the Oklahoma Department of Environmental Quality. Phase II stormwater regulations require Tahlequah to become permitted under a municipal separate storm sewer system permit called OKR04. There are 51 Phase II entities across the state. Each Phase II city must create a program that will work best with its physical conditions, local resources, and underlying issues.

The City of Tahlequah's stormwater is considered a point source pollutant because it is collected off streets into drains and piped into streams. City stormwater runoff is channeled into three main tributaries, Pecan Creek, Stick Ross Creek, and the Tahlequah Creek (known as The Town Branch). Pecan Creek and Stick Ross Creek connect and flow into the Illinois River.

The Oklahoma Water Quality Standards prohibits new point source discharges of any pollutant or increased load of any pollutant from existing point source discharges into

Outstanding Resource Waters or their watersheds. Tahlequah's permitting situation is unique in that it is the only small city with a Phase II City classification in the state of Oklahoma that has tributaries flowing into an outstanding resource water of the state. The Illinois River has a Scenic Rivers designation which qualifies it as an outstanding resource water body. The monitoring component of Tahlequah's OKR04 permit is not required by any other Phase II city in Oklahoma.

Municipal Facilities

The following facilities are owned by the City of Tahlequah and are subject to periodic inspections:

	Facility	Address	Potential Pollutants or Chemicals Stored
1	City Hall		n/a
2	Council Chambers		n/a
3	IT Dept		n/a
4	Police Station		n/a
5	Fire Station 2		Misc. chemicals
6	Fire Station 1		Misc. chemicals
7	Public Works		Salt, sand, misc. chemicals
8	Street Dept		Salt, sand, misc. chemicals
9*	Sanitation		Floatables, misc. waste
10	Recycle Center		Floatables, misc. waste
11	Maintenance Garage		Misc. chemicals
12	Vehicle Fueling TPWA		Misc. chemicals, fuel
13	Animal Control		Misc. chemicals
14*	Water Treatment Plant TPWA		Water treatment chemicals
15*	Waste Water Treatment Plant TPWA		Misc. chemicals, sewage
16	Parks Department		Misc. chemicals

*Entities are also regulated by ODEQ.

Contracted Services

The City of Tahlequah is in the process of contracting with Freese and Nichols (Engineering consultant) to conduct a grant funded City Wide Drainage study. The City also has the benefit on the Oklahoma Water Resource Board contracting with Meshek and Associate LLC to update the city's flood plain maps.

Ordinances

Tahlequah's stormwater ordinances can be found in **Chapter 18 Stormwater Management** of the Code of Ordinances. Topics discussed in the ordinances include:

- Stormwater Program
- Fees
- Definitions
- Responsibility for Administration
- Construction Activities
- Illicit Discharges
- Penalties for Violations
- Stream Buffer Ordinance

Other ordinances that could be passed pertaining to stormwater pollutant reduction:

- landscape ordinance

Annual Report

Annual reports are due in October each year. Prior to 2015, each city chose deadline dates. After 2015, the program became more streamlined by the ODEQ. The reporting format is not yet stated. BMP tables are a good tool to use for the report. A summary explains why we do what we do and how we do it. The language provided below should be included in each annual report along with the tables that demonstrate our BMP implementation. A streamlined e-reporting template may be added by ODEQ that will replace the paper reports.

Categories reviewed are as follows:

1. Activity – What was done?
2. Responsibility – Who is responsible for BMP?
3. Target Audience – Who is reached?
4. Frequency – How often?
5. Goal Achievement – Did you meet goal?
6. Metrics of BMP – How many? When? Numbers, weights, amounts, dates
7. Should you keep the BMP? Is there a better way to do this? - Analyze BMPs effectiveness each year and make changes as needed.

Abbreviations

The following abbreviations are commonly used in association with stormwater regulations:

ABBREVIATION INDEX	
BMP	Best Management Practice
CSO	Combine Sewer Overflow
CWA	Clean Water Act
DEQ	Department of Environmental Quality
DO	Dissolved Oxygen
EPA	Environmental Protection Agency
GIS	Geographic Information System
GPS	Global Positioning System
LID	Low Impact Development
MCM	Minimum Control Measures
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOV	Notice of Violation
NPDES	National Pollution Discharge Elimination System
NPS	Non-Point Source
OAC	Oklahoma Administrative Code
ODEQ	Oklahoma Department of Environmental Quality
OPDES	Oklahoma Pollution Discharge Elimination System
OWQS	Oklahoma Water Quality Standards
POTW	Publicly Owned Treatment Works
SMS4	Small Municipal Separate Storm Sewer System
SWMP	Stormwater Management Plan
SWMPPP	Stormwater Pollution Prevention Plan (aka SWP3)
SWPMP	Stormwater Pollution Management Plan
SWP3	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
WQS	Water Quality Standards

Definitions

All definitions contained in Section 502 of the Act and 40 CFR §122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the event of a conflict, the definition found in the Statute or Regulation takes precedence.

Aquatic Resource of Concern (ARC) is a waterbody corridor which contains habitat for federally listed (by the U.S. Fish and Wildlife Service) or state listed (by the Oklahoma Department of Wildlife Conservation) endangered or threatened aquatic species.

Best Management Practice (BMP) is the schedule 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.

Clean Water Act (CWA)[33 U.S.C. 1251 et seq.] (formerly referred to as the Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972).

Construction Site Operator means, for the purpose of this permit and in the context of stormwater associated with construction activity, any party or parties associated with a construction project that meets either of the following criteria:1.The party must have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications (e.g., owner of the site).2.The party must have day-to-day operational control of those activities at a project that are necessary to ensure compliance with a Stormwater Pollution Prevention Plan (SWP3) for the site or other permit conditions (e.g., general contractor of the project).In addition, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline or a landowner who allows a mining company to remove dirt, shale, clay, sand, gravel, etc. from a portion of his property). This definition is provided to inform permittees of DEQ's interpretation of how the regulatory definitions of "operator" and "facility or activity" are applied to discharges of stormwater associated with construction activity.

Control Measure refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the state.

Director means the Executive Director, chief administrator or an authorized representative of the Department of Environmental Quality in this plan. The term

director may be described differently in City ordinances referring to the Development Services Director.

Discharge, when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge is defined at 40 CFR §122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an OPDES or NPDES permit (other than the OPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.

Impaired Water is a water which does not meet one or more of its beneficial uses due to not attaining applicable narrative or numeric water quality standards. Impaired waters are identified in the CWA section 303(d) listing from Appendix C of the most recent Integrated Report. Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

Impervious Surface means any hard surface area that prevents or retards the entry of water into the soil in a natural manner.

Infall is a place where stormwater from another MS4 enters our City limits.

Large Common Plan of Development or Sale means an area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. This plan consists of many small construction projects that collectively add up to one or more acres of total disturbed land. For example, an original common plan of development of a residential subdivision might lay out the streets, house lots, and areas for parks, schools and commercial development that the developer plans to build or sell to others for development. All these areas would remain part of the common plan of development or sale until the intended construction is completed.

Low Impact Development (LID) is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product.

Maximum Extent Practicable (MEP)is the technology-based discharge standard for Municipal Separate Storm Sewer Systems (MS4s) to reduce pollutants in stormwater discharges that was established by section 402(p) of the CWA, 33 U.S.C. § 1342.

Municipal Separate Storm Sewer System (MS4) is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System. The term is used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities (e.g., the Oklahoma City MS4 includes MS4s operated by Oklahoma City, the Oklahoma Department of Transportation, and others). The term MS4 is defined at 40 CFR § 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is/are1.owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;2.designed or used for collecting or conveying stormwater;3.not a combined sewer; and4.not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR § 403.3(q).

Newly Regulated Small MS4 refers to a small MS4 newly designated as a result of US census data or other new information, and thus required to be covered under an OPDES permit.

Notice of Intent (NOI) is the mechanism used to "register" for coverage under a general permit.

Non-traditional MS4 means state and federal prisons, office complexes, hospitals, state transportation agencies, universities, public housing authorities, schools and other special districts

Notice of Termination (NOT) is the mechanism used to terminate coverage under a general permit.

Outfall is a place where stormwater from our MS4 empties into a stream where it will leave the Tahlequah city limits (as defined by City of Tahlequah since there is no state or federal legal definition yet).

Outstanding Resource Waters (ORW) are designated as such in Oklahoma's Water Quality Standards under OAC 785:45-3-2(a).

Pollutant of Concern (POC) is a pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in the latest 303(d) list, a TMDL report, or watershed plan.

Quality Assurance Project Plan (QAPP) is a document that outlines the procedures that those who conduct a monitoring project will take to ensure that the data they collect and analyze meets project requirements.

Recharge Area is an area where stormwater drains into groundwater and resurfaces as a spring or flows to a well.

Small MS4 is defined at 40 CFR §122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a state, city, town, county, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the state, but is not defined as a "large"' or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Small MS4 Newly Designated after the Date of Permit Issuance refers to a small MS4 newly designated by EPA or DEQ after the date of this permit issuance.

Stabilization is the process of covering exposed ground surfaces with vegetative or non-vegetative practices that reduce erosion and prevent sediment discharge from occurring.

Stormwater is defined at 40 CFR §122.26(b)(13) and means stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Management Program (SWMP) refers to a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system (MS4).

Total Maximum Daily Load (TMDL) refers to the sum of the individual wasteload allocations (WLAs) for point sources, safety, reserves, and loads from nonpoint sources and natural background.

"You" or "Your," as used in this permit, is intended to refer to the permittee, operator or discharger, as the context indicates, and that party's responsibilities (ie: the city, the county, the flood control district, the U.S. Air Force, etc.)

Waters of the State means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, storm sewers and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion thereof, and shall include under all circumstances the waters of the United States which are contained within the boundaries of, flow through, or border upon this state or any portion thereof. Provided waste treatment systems, including treatment ponds or lagoons designed to meet federal and state requirement other than cooling ponds as defined in the CWA or rules promulgated thereto, and prior converted cropland are not waters of the state [27A O.S. §1-1-201(20)].

Watershed is an area of land that drains to a specific river or lake.

Wasteload Allocation (WLA) is the fraction of the total pollutant load apportioned to all point sources, and includes stormwater discharges regulated as point sources which are identified in the TMDL as WLA_MS4.

Contact Information

City of Tahlequah, Stormwater Department
Stormwater Program Manager
111 S Cherokee, Tahlequah, OK 74464
Dane Lee, Stormwater Manager dlee@tahlequah.gov
(918) 525-4716

GCSA – Green Country Stormwater Alliance www.stormwaterok.net

EPA - Environmental Protection Agency, www.epa.gov

OCC – Oklahoma Conservation Commission (see also Blue Thumb)
www.conservation.ok.gov

ODEQ – Department of Environmental Quality
Water Quality Division
707 N. Robinson, PO Box 1677, Oklahoma City, OK 73101-1677
www.odeq.ok.us (405) 702-8139

OWRB – Oklahoma Water Resources Board
3800 N. Classen Boulevard, Oklahoma City, OK 73118
www.owrb.ok.gov (405) 530-8800

Maps

1. Stormwater outfalll map (Contracted study in progress)
2. Storm Sewer Inlet System map (Contacted study in progress)
3. Drainage Basins Map (Contracted study in progress)
4. Floodplain map (Available on City Website)
5. Zoning/Land Use Map (Available on City Website)

Forms

1. BMP Table sheets for Annual Report
2. Land Disturbing Permit
3. Construction Inspection Form
4. Dry Weather Field Screening Reporting Form
5. Facility Inspection Quarterly Report

Reports

- Annual Report to ODEQ created every fiscal year due in October.

APPENDIX A. BMP Tables (1)(Prior Table)(Completed by Mohamid Bassime)

Best Management Practices for 2021-2026 Permit Cycle		MCM	Goal for BMP	Status 2022	Outcomes of 2022 Annual Report
1	Continue distribution of education materials.	1	Distribute Information at City Hall and Chamber of Commerce	100%	Information is distributed at City Hall and Chamber of Commerce.
2	Continue attending regional training.	3,4,5,6	Attend a Regional training	100%	Multiple Meetings with INCOG were attended as well as a DEQ trainings
3	Review and update revised system map	3	Update system map to remain current with acquired data	100%	All current acquired data resembles information accurately on system map
4	Review usefulness of ordinances and make changes as needed.	6	Work with DEQ, INCOG,or GCSA on Ordinance updates	100%	Spoke with INCOG concerning ordinance updates and have begun drafts to improve/ edit our current ordinances
5	Review usefulness of public information process and update, if needed.	1	All information available to the public should be updated and accurate	100%	Information available to the public is updated or removed to only show 100% accurate information
6	Review and amend process for including water quality consideration in site plan reviews.	4,5	TAC meetings ensure Water Quality	100%	All Technical Advisory Committee (TAC) meetings discuss and ensure Water Quality is considered prior to the project
7	Promote and attend a regional seminar or conference relating to Phase II stormwater or urban water quality issues.	3,6	Attend a DEQ, OFMA, or EPA Stormwater Conference	100%	Attended a FEMA meeting regarding Floodplain Management on areas affected due to flooding. Attended Regional GCSA Meeting/ training.

8	Discuss Phase II stormwater and stormwater quality topics in public meetings and news	4,5	Phase II Stormwater and quality topics should be discussed in public meetings.	100%	A hazard mitigation meeting was held open to public, discussion of Phase II stormwater quality topics were included and discussed.
9	Collect local and regional pollution data from various resources.	6,3	Collect Data from an organization monitoring Water Quality within the Municipality	100%	E.coli Information is being recorded monthly and sent to Accurate Labs a State certified lab for testing.
10	Help develop / participate in regional stormwater website.	1	Be a part of a regional organization dealing with Stormwater	100%	Active participation with the GCSA, IRWP and GRDA in providing public opportunities and water quality awareness.
11	Post signs in watersheds and city buildings about water quality and proper handling and disposal of chemicals.	1,6	Post Signs at Solid Waste and Street Dept. Buildings and all streams.	66%	Tahlequah Creek has signs posted on it, along with parks advising to remove any feces that come from personal pets
12*	School education program: promote and coordinate data	1	Coordinate with IRWP for public education	100%	IRWP held multiple public education events with various schools concerning stormwater
13*	Blue Thumb volunteer stream monitoring program: promote and coordinate data	1	Generate 10 volunteers to begin the Program	50%	Blue Thumb held a training for volunteers on March of 2023
14*	Storm drain marking program using citizens and local organizations	1,6	Create a Program	0%	No program created yet
15*	Sponsor "Trash-off" community trash cleanup day	1,6	Sponsor 2 days of free disposal of household hazardous wastes for Tahlequah Citizens	100%	Both Community dump days at Solid Waste days sponsored
16	Conduct MS4 inspection program based upon incident reports	3	Investigate all reports	100%	All Incidents are filed under Code Pal
17	Conduct monthly construction site inspections based upon building permits	4	Inspect all construction sites per DEQ requirements	100%	All Construction sites are inspected per DEQ requirements

18	Conduct inspection of city facilities and maintenance yards for control of chemicals	6	Conduct Annual Inspections at all City Facilities	100%	Yards are inspected and superintendents are informed of any possible violations if any are present.
19	Conduct quarterly inspections of permitted City facilities	6	Collect quarterly inspection reports from each permitted City facility	NEW	Solid Waste Facility, Water Treatment Plant & Wastewater Treatment Plant reports collected quarterly
20	Clean out MS4 tinhorns and conduits from trash, debris and silt with local public works crews	6	Work with street department in beginning a program on tracking	50%	Began Work on coordinating a method of documentation has begun
21	Mechanical street sweeping of City's main streets for removal of trash, debris and silt.	6	Goal of 1000 Miles for 2021 and 100 tons	100%	Over 2000 miles were added to the street sweeper and over 108 tons of debris was collected
22	Conduct dry weather field screening measure.	3,6	Inspect 40% of identified Outfalls	90%	Most identified outfalls were inspected and have been documented
23	Conduct training for municipal employees	3,6	Train 20 Employees	100%	Fire Department Hazmat trained, Solid Waste & Code Enforcement had a stormwater training
24*	Increase public involvement in the reduction of floatable pollutants in waterways	1	Organize 1 annual volunteer clean up event	100%	An event was held with Cherokee Nation Which included a cleaning of Tahlequah Creek.
25	Increase public participation and involvement in Water Quality Awareness Day.	1	Organize an event on water quality awareness day	0%	No event was held in 2021-2022 for Water Quality Awareness Day
26	Custom vehicle wrap for program truck	1	Wrap a vehicle	0%	None
(4 required Public Outreach events indicated by *)					

APPENDIX A. (Proposed BMP change)

2021-2026 BEST MANAGEMENT PRACTICES STATUS TABLE FOR CITY OF TAHLEQUAH

***= Required Activity, E = event, F = Frequency: (A=Annually, B=Biannually Q=Quarterly, M=Monthly, O=On-going, 1=One-time action or event, 5=once per 5 yr permit cycle)**

	BMP listed (Minimum Metric: Amount, Frequency)	Dept	Reporting Metric	Target	F	Changes to BMPs
	PUBLIC EDUATION & PARTICIPATION (MCM 1) **(4 required events)**					
1*	**BMP: Distribute brochures to residents: Stock 2 brochure racks twice annually. (July & Jan)**	SW	10 City Hall rack 10 Chamber of Commerce rack	All years	B	Changed wording Required
	Rationale: Since we are a small town, most of our residents live in single family housing in neighborhoods. Our best places for outreach with brochure racks are the Chamber of Commerce and City Hall.					
	Measurable Goal: Stock 2 brochure rack locations with "After the Storm" brochure twice a year with a minimum of 10 each.					
	BMP Assessment: Keep BMP for those who do not have computers, cell phones or access to social media.					
2 *	**BMP: Distribute brochure to encourage citizens to use proper chemical disposal methods.**	SW Sanitation	10 City Hall rack 10 Chamber of Commerce rack	All years	A	Changed wording Required
	Rationale: We do a HHW drop off event each year that we advertise and distribute flyers for.					
	Measurable Goal: Stock 2 brochure rack locations with HHW event flyer with a minimum of 10 each.					
	BMP Assessment: Keep BMP for those who do not have computers, cell phones or access to social media.					
3	**BMP:** Post signs in watersheds and public buildings about water quality and proper handling of chemicals.	SW	Post signs at Solid Waste & Street Dept & along streams	All years	O	Changed wording
	Rationale: Signs help remind people to use caution around water bodies.					
	Measurable Goal: We will post one sign per year of permit cycle.					
	BMP Assessment: Keep BMP until signs are in place in desired areas.					
4*	**BMP: School education program: promote and coordinate data**.	SW	We will partner with IRWP, local tribes and GRDA.	All years	Q	Required Event #1
	Rationale: We have sponsor events and we also take advantage of opportunities to be a guest speaker in the classroom.					
E1	***Measurable Goal:*** We will provide a stormwater education opportunity (generally a booth) at 1 child-friendly event per year.					
	BMP Assessment: This is a good opportunity to reach school age children.					

5	**BMP: Participate in regional Stormwater Partnership.**	SW	IRWP, GSCA & GRDA are best options for partnerships now.	All years	O	Changed wording
	Rationale: Partnerships allow us to share resources and have a stronger voice when united.					
	Measurable Goal: We will continue to work with at least outside water quality organization each year with website representation.					
	BMP Assessment: Keep BMP as long as partnerships are available.					
6	**BMP: Maintain SW webpage**	SW MKT	Updated 12/28/2021	All years	A	New BMP
	Rationale: As new best management practices are implemented the information changes and the website needs to reflect the changes. It is also a good place to show progress, participation, events and get input from citizens.					
	Measurable Goal: We will review our website content once every calendar year and make appropriate changes.					
	BMP Assessment: Keeping the website current is important because the public goes there to get information. BMP should be continued.					
8	**BMP: Free "DUMP DAY" event.**	SW	Citizens have 1 sponsored free dump day currently.	All years	A	Changed wording Event #2
	Rationale: Gives the public the opportunity to properly dispose of household hazardous waste, green waste, and household trash.					
E2	**Measurable Goal:** Hold 1 event per year.					
	BMP Assessment: Keep BMP as long as resources for disposal are available in Tahlequah.					
9	**BMP: Promote Blue Thumb Volunteer Stream Monitoring Program (and coordinate data)**	SW	Oklahoma Conservation Commission houses program.	All years	M	Changed wording Event #3
	Rationale: Volunteer Stream Monitoring provides data and allows citizens to be engaged with their local streams.					
E3	**Measurable Goal:** Provide space for training and/or sponsorship for one training event per year.					
	BMP Assessment: Keep BMP and continue to support Blue Thumb program in Tahlequah area.					
11 *	**BMP: Make SWMP available to public.**	SW IT	Report dates of changes	All years	O	New BMP Required
	Rationale: This gives people a chance to become aware of the program and to offer input or support.					
	Measurable Goal: Post information on website once per permit cycle.					
Met	**BMP Assessment**: Continue to update and post relevant documents and changes to program.					
12*	**BMP: Take advice from citizens via input on website.**	IT	Report # of comments received. Track annually.	All years	A	New BMP Required
	Rationale: This gives people a chance to become aware of the program and to offer input or support.					
	Measurable Goal: Review comments yearly when analyzing BMPS for annual report.					
	BMP Assessment: Continue to review comments.					

13*	**BMP: Discuss Phase II at public meetings**	DS	Report date of public meeting	All years	A		New BMP Required
	Rationale: This gives people a chance to become aware of the program and to offer input or support.						
	Measurable Goal: Phase II Program will be discussed at least once per year at a public meeting.						
	BMP Assessment: Continue to discuss at public meeting since this is a required BMP.						
14	**BMP: Conduct storm drain marking**	SW	Organize with Scouts or similar groups, report number marked	2024	5		Changed wording Event #4
	Rationale: These activities give people a chance for hands on participation.						
E4	**Measurable Goal:** One project will be encouraged and supported each permit cycle.						
	BMP Assessment: Keep BMP and facilitate when groups are available to mark or replace old curb markings.						
	REMOVED PUBLIC EDUCATION BMPs (listed in 2021-2021 annual report)						
AR 24	**Increase Public Participation and involvement in Water Quality Awareness Day**						
	Reason BMP Removed: We had enough events to the meet permit requirement.						
AR 25	**Custom vehicle wrap for program truck**						
	Reason BMP Removed: We had enough BMPs listed for Public Education and new staff is reviewing budget at this time.						
	INDUSTRIAL FACILITIES (MCM 2) Not Applicable to City of Tahlequah						
	ILLICIT DISCHARGE, DETECTION & ELIMININATION (MCM 3)						
1*	**Receive pollution and spill episode information from the public.**	SW IT	Report # of contacts made from public via email or phone	All years	O		New BMP Required
	Rationale: Helps us know when there is an issue.						
	Measurable Goal: 1 website or phone line available per year. (Report # of calls received and/or emails received annually.)						
	BMP Assessment: Required BMP.						
2 *	**BMP: Implement a source tracking inspection and enforcement program. (complaint driven)**	SW DS	# of point sources tracked & discharges remediated	All years	O		Current BMP
	Rationale: Helps us locate and mitigate point sources.						

	Measurable Goal: 1 report for each month of the fiscal year reflected in chart on Annual Report.						
	BMP Assessment: Required BMP. Continue to track.						
3*	**BMP: Distribute flyers about best management practices to commercial businesses**.	SW MKT	Report # flyers sent w/bus lic renewals	All years	A		New BMP Required
	Rationale: Directly reaches commercial properties to prevent issues.						
	Measurable Goal: Send SW BMPs for Businesses flyer to all business license renewal customers.						
	BMP Assessment: Required BMP.						
4	**BMP:** Implement a floatable trash & debris removal program for local streams and MS4.	SW	Report # of participants, # of bags, # of events	2021-2026	A		Changed location of BMP.
	Rationale: Helps reduce floatable pollution and raises public awareness***.***						
E5	***Measurable Goal:*** Organize 1 public clean-up event per year or hire labor to clean roadways and report number of days cleaned.						
	BMP Assessment: Continue whenever possible to partner on clean up events.						
5 *	**BMP: Implement Dry Weather Field Screening inspection program.**	SW GIS	Report # sites inspected each year.	2021	A		Required BMP
	Rationale: This activity helps us gain an understanding of our MS4.						
	Measurable Goal: Inspect 40% of sites each year Aug-Nov during dry weather when we have not had rain for over 10 days.						
	BMP Assessment: Required BMP. Continue inspecting at least 40% of sites each year.						
6	**BMP:** Collect local and regional pollution data from various sources.	SW	Provide 1 data report each year.	All years	O		Changed wording
	Rationale: Streams in the City limits connect to an Outstanding Resource Water of the State of Oklahoma with body contact rating.						
	Measurable Goal: 1 Special Monitoring Program Report will be turned in with Annual Report each year.						
	BMP Assessment: Keep BMP as long as Tahlequah is required to have special program.						
7	Update MS4 system map showing outfalls, waters of the state and MS4 structures (1 update per year)	SW GIS	Map reviewed or updated annually; report changes		A		New BMP
	Rationale: Keeps our information current.						
	Measurable Goal: 1 map update per 3 years						
	BMP Assessment: Keep BMP and add new outfalls to inspection schedule each year from new subdivisions built.						
8*	**Implement a comprehensive bacteria 303 d pollutant reduction plan as defined in OKR04 with priority areas**	SW	Report dates of modified program	All years	1		
	Rationale: Updates help keep plan relevant. ***See Below:***						

	Measurable Goal: Report outcomes of Bacteria reduction plan once per year in Annual Report.			
	BMP Assessment: Keep BMP so changes can be tracked and formally addressed.			
	303 D Pollutant Reduction Plan Action Items			
a	Identify significant non-stormwater discharges of 303d pollutants.	SW	List created 9 significant pollutants identified I annual report 2021-2021. Report date of plan update.	Required
	Measurable Goal: 1 list created and SWMP updated			
	BMP Assessment: Keep BMP in case changes are made to the 303d list.			
b *	Conduct pollutant source inspections in 303d high priority areas.	PW	Public Works will perform camera inspections of sewer lines that can impact the watershed if need determined	Required
	Measurable Goal: 1 annual report on inspection activities in troubled areas (pollutant addressed: bacteria)			
	BMP Assessment: Keep BMP since required.			
c *	Adopt a Pet Waste Ordinance.	SW	Ordinance will be reviewed by Stormwater Manager in 2023-2024 permit cycle	Required Changed yr
	Measurable Goal: 1 ordinance created 2021			
	BMP Assessment: Keep BMP until ordinance passed, since required.			
d*	Review Sewer infrastruction and maintenance records from TPWA. (report pipes bursting, raising manholes, etc.)	SW PW	Report amount in linear ft of pipe bursting and amount of man-holes raised and repairs made. Communicate with TPWA about needed upgrades.	Might need funding Required
	Measurable Goal: Open communication with TPWA and request information. Report annual reports of activities			
	BMP Assessment: Keep BMP.			
e *	Maintain educational signage along creeks regarding bacteria, its dangers and sources.	SW	Temporary signs were placed along Tahlequah Creek in areas that are frequently visited.	Required
	Measurable Goal: Post creeks when bacteria testing shows high numbers during the recreational season.			
	BMP Assessment: Keep. Review annually.			
	REMOVED IDDE BMPS (none removed)			
	CONSTRUCTION SITE STORMWATER RUNOFF CONTROL (MCM 4)			

1 *	**BMP: Develop procedures for site plan review (All site plans over an acre reviewed)**	SW DS	Report number of site plans reviewed each yr	All years	M		Required
	Rationale: Site plan review tells inspector what to look for and ask for ahead of time.						
	Measurable Goal: Review and report all site plans for sites over an acre during TAC Technical Advisory Meetings.						
	BMP Assessment: Required BMP. Keep.						
2*	**BMP: Annual staff training for construction inspectors**	SW DS	Report dates and numbers trained	All years	A		New BMP Required
	Rationale: Inspectors need to know what to look for in Erosion Control.						
	Measurable Goal: One inspector training attended by Development Services staff per year.						
	BMP Assessment: Required BMP. Keep.						
3*	**BMP: Provide or facilitate or sponsor annual training for development & construction community.**	SW DS	# of construction industry providers trained	2023	A		New BMP Required
	Rationale: Helps keep local development community up to date on SW issues.						
	Measurable Goal: (1 per year)						
	BMP Assessment: This BMP is difficult to implement on my own. The larger MS4s have more staff and resources to put on education events. I feel like this might be more appropriate for the category 3's or as part of a COSWA effort. I created a brochure for Construction BMPs that I sent out to all of our contractors with license renewals and I can send out invites for training events as well.						
4*	**BMP: Conduct Construction Site Inspections**	SW DS	Report # inspections annually	All years	M		BMP Required
	Rationale*:* Site inspections help with compliance.						
	Measurable Goal: 1 per month avg. per active site						
	BMP Assessment: Required BMP. Continue inspections.						
5 *	**BMP: Develop or update requirements for construction site operators to implement sediment and erosion BMPs.**	SW DS	Report date ordinance reviewed	2024	1		New BMP Required
	Rationale: Updates help keep things current.						
	Measurable Goal: 1 ordinance update per permit cycle						
	BMP Assessment: Required BMP. Since OKR10 is being updated, it will be a good time to review and update our ordinance. We will also be finished with our Development Code Update that has taken up a lot of staff time over the past year.						
6 *	**BMP: Develop requirements for construction site operators to control wastes at sites.**	SW DS	Report date inspection check sheet updated	2024	1		New BMP Required

	Rationale: Waste from construction sites can end up being washed into storm drains if not picked up or managed properly.						
	Measurable Goal: 1 code update per permit cycle						
	BMP Assessment: Required BMP. We will work on our ordinance updates this permit cycle.						
	REMOVED CONSTRUCTION MANAGEMENT BMPS (none removed)						
	POST CONSTRUCTION MANAGEMENT (MCM 5)						
1*	**BMP: Develop procedures for inspection of detention ponds.**	SW	Report number of ponds inspected	2023	1		New BMP Required
	Rationale: Helps us keep ponds cleaned out.						
	Measurable Goal: Procedures in the form of a check sheet for inspection of detention ponds created.						
	BMP Assessment: Keep until requirement met and then change BMP to inspect detention ponds and report number inspected.						
2	**BMP: Map areas with detention ponds**	SW GIS		2023	1, O		New BMP
	Rationale: Helps us know what needs to be inspected and who is responsible party to contact.						
	Measurable Goal: 1 map to be created and updated annually.						
	BMP Assessment: Keep BMP but after finishing map, modify BMP to say update map annually.						
3 *	**BMP: Review local codes & identify barriers to LID**	SW DS	Review & identify	2022	1		New BMP Required
	Rationale: Review codes so that we can modify.						
	Measurable Goal: 1 code reviewed and barriers to LID identified.						
	BMP Assessment: We are continuing with the update our development code this year and have looked at barriers.						
4 *	**BMP: Remove barriers to LID and justify those not removed**	SW DS	Remove/justify	2023	1		New BMP Required
	Rationale: Removing barriers reduces uncertainty and helps projects materialize and move forward.						
	Measurable Goal: 1 justification letter of barriers not removed.						
	BMP Assessment: Required BMP. Keep until met.						
5 *	**Participate in a Public Ed Program for developers that includes LID strategies. (1 per permit cycle)**	SW DS	Report # attended at program	2023	1		New BMP Required
	Rationale: Education of development community could result in changes to the built environment.						

	Measurable Goal: Host or sponsor one public ed program for developers including LID strategies per permit cycle.						
	BMP Assessment: This needs to be a GCSA or GRDA project that membership supports. I don't know that I can implement this on my own.						
6*	**BMP: Develop procedures for inspection and maintenance of catch basins, streets, parking lots, LID facilities etc.**	SW	May be an annual or quarterly inspection	2024	1		New BMP Required
	Rationale: Helps inspectors and other staff know what to look for and how to report issues.						
	Measurable Goal: Respond to 100% of reported issues by notifying Public Works crews who perform visual inspections after being notified.						
	BMP Assessment: Keep BMP. Inspections are performed by our line crews in Public Works who are responsible for cleaning out our drainage system. We have limited ability to dictate their methods for performing inspections since they are not in our department.						
7	**BMP: Do final inspections to ensure that all trash picked up and ground covered. (1 per year)**	DS	Report # of final inspection per year.	2	O		New BMP
	Rationale: Determines that site was stabilized prior to the issuance of the Certificate of Occupancy.						
	Measurable Goal: 1 final inspection will be made for each finished residential home built and commercial buildings before occupation.						
	BMP Assessment: Keep BMP. It shows that we do require the site to be stabilized before allowing residents to move in and we can quantify how many we inspect. We do it on commercial as well.						
	REMOVED POST CONSTRUCTION BMPS (none removed)						
	MUNICIPAL GOOD HOUSEKEEPING (MCM 6)						
1*	**BMP: Comply with all state and local public notification requirements.**	All	Every public meeting posted	All years	O		Required
	Rationale: Cities should comply with notification requirements as a best practice.						
	Measurable Goal: All state and local public notification requirements will be met for all public meetings.						
	BMP Assessment: Required so keep.						

2*	**BMP: Review and update SW Ordinances as needed (review once per permit cycle)**	SW	Working with INCOG for advice on draft ordinances.	2025	5		Required
	Rationale: Ordinances should be reviewed each permit cycle so that they remain current.						
	Measurable Goal: One ordinance review per permit cycle.						
	BMP Assessment: Keep BMP since things change over time and the ordinances should be reviewed every permit cycle.						
3*	**BMP: Review & evaluate all BMPs (annually at report time)**	SW PW	Report changes to BMPs with annual reports each year	2023	1		New BMP Required
	Rationale: Keeps BMPs relevant to time period, staff & equipment						
	Measurable Goal: 1 BMP review & evaluation conducted.						
	BMP Assessment: Keep BMP since it reminds me to report the activity and get credit for it.						
4 *	**BMP: Train city field workers to identify and report pollution**	SW PW		All years	A		Required
	Rationale: City field workers see things on a daily basis and should be trained to know what is an issue to report and best practices.						
	Measurable Goal: Provide 1 annual training of City workers for stormwater pollution prevention.						
	BMP Assessment: Required BMP. Keep.						
5	**BMP: Street Sweeping (minimum = 12 months of info, we approximately average 2500 miles per year)**	SW PW	Report #of miles and amount of spoils picked up per year	All years	M		
	Rationale: Street sweeping is the best way to obtain quantifiable pollution reduction.						
	Measurable Goal: Streets will be swept an average of one day per month.						
	BMP Assessment: Keep BMP because this is a good way to show actual pollution reduction of street pollution kept out of storm drains.						
6*	**BMP: Develop procedures for controlling pollution from streets, storage areas, & other city facilities.**	SW PW	Report new procedures	2023/2422	1		New BMP Required
	Rationale: Keeping the streets and facilities clean sets a good example for citizens and prevents blockages in the drainage system.						
	Measurable Goal: Clean drainage when problems arise. Respond to 100% of calls from citizens reporting blocked drainage.						
	BMP Assessment: Required BMP.						
7*	**BMP: Inspect City facilities**	all	Report # of facilities inspected	All years	A		Required
	Rationale: Helps us keep City facilities in compliance.						
	Measurable Goal: Regulated facilities inspected **quarterly** (by Dept Heads sending reports to SW) and other facilities inspected annually						
	BMP Assessment: Required BMP. Keep.						
8	**BMP:** Clean out MS4 tinhorns and conduits from trash debris and silt with local street department crews.	PW, SW	Report amount of manhours or number of tinhorns cleaned.	All years	A		Current BMP

	Rationale: Keeping the tinhorns and conduits cleaned out will keep debris and trash out of creeks.						
	Measurable Goal: 1 report of man hours or tinhorns cleaned out annually.						
Met	**BMP Assessment**: Keep BMP since it helps with water quality and reduction of flooding.						
9	**BMP:** Attending regional seminar or conference relating to Phase II Stormwater, Water Quality, or Floodplain.	SW	(Report date and of events)	All years	A		Current BMP
	Rationale: Training events help us learn how to manage our programs.						
	Measurable Goal: 1 training event will be attended every year.						
	BMP Assessment: Keep BMP.						
	REMOVED MUNICIPAL GOOD HOUSEKEEPING BMPS						
AR #5	**BMP Removed**: Review usefulness of public information process and update if needed.						
	Reason BMP Removed: We evaluate all BMPs annually at annual report time and this was redundant.						

APPENDIX B. SPECIAL MONITORING PROGRAM FOR OUTSTANDING RESOURCE WATERS

(This program will be reviewed by new staff over the year. Currently, we are following what the previous stormwater program manager set up.)

Tahlequah is located in the Scenic Illinois River watershed located in the Ozark Highlands ecoregion. The Illinois River begins in northeastern Arkansas and flows north-west into Oklahoma where it discharges into the Arkansas River. The Illinois River and its tributaries have special water quality protection status as an Outstanding Resource Water (ORW) due to recreational and aesthetic values, as classified by the Oklahoma Water Resources Board (OWRB). Tahlequah Creek is designated for Public and Private Water Supply, Cool Water Aquatic Community, Aesthetics, Agriculture, and Primary Body Contact Recreation.

Within Tahlequah city limits, Ross Branch Creek joins with Tahlequah Creek (also known as Town Branch Creek) which is the principal route of Tahlequah's stormwater runoff discharge. Tahlequah Creek is 6.21 miles in length and the watershed is approximately 9,457 acres (14.8 mi) in size, with Ross Branch Creek watershed contributing 3,777 acres (Figure 2). Tahlequah Creek, Hydrologic Unit Code (HUC) OK121700030020_00, is listed on the ODEQ 2016 303(d) List of Impaired Waters for Escherichia coli (E. coli).

Due to the ORW special status, Tahlequah is required to conduct water quality monitoring and implement BMPs to ensure that there are no increased loads of pollutants and to not cause or contribute to in-stream exceedance of Oklahoma Water Quality Standards (OWQS).

Program Components

This section provides specific details of the chemical, biological, and physical components used to assess water quality. The equipment, quality assurance plans (QAs), standard operating procedures (SOPs), and methodology are provided in this section. Sample locations are focused on Tahlequah Creek (Town Branch Creek) and Ross Branch Creek. Precipitation amounts during and within the previous 24 hours will be recorded. Monitoring consists of chemical, streamflow, and biological/habitat assessments. The following sections provide details about each program component.

Chemical

Testing and measurement of various chemical parameters will provide information necessary to determine what types of pollution have an effect on water quality. Analytical monitoring involves the following parameters and the sampling equipment for each: ϖ Temperature – YSI-ProDDS probe ϖ Dissolved oxygen (DO) – YSI-ProDDS probe ϖ pH – YSI-ProDDS probe ϖ Specific conductivity – YSI-ProDDS probe ϖ Turbidity – YSI-ProDDS probe ϖ Total suspended solids (TSS) – Fisher Scientific Environmental Express ProWeigh Preweighed Filters for Gravimetric Analysis Temperature, DO, pH, specific conductivity, and turbidity analyses will be performed on-site. TSS, ammonia, and total phosphorous analyses will be performed in a lab. The OWRB Water Quality Programs Division "Standard Operating Procedure for the Collection of Water Quality Samples in Streams" will be used as a reference for collection procedures. QAs and SOPs for each parameter are on file at City Hall in the Stormwater Program office.

Streamflow

Streamflow, or discharge, is used to determine the pollutant loading, as well as the establishment of stormwater runoff stage-discharge relationships. Streamflow is determined by stream width, depth, and velocity; measurement results are stated as cubic feet per second (ft3 /s). A Hach FH950 flowmeter will be used to obtain measurements. The OWRB Water Quality Programs Division "Standard Operating Procedure for the Measurement of Stream Discharge" will be used as a reference for collection procedures. QAs and SOPs are on file at City Hall in the Stormwater Program office.

Biological

Bacteria collections: E. coli is bacteria found in the fecal matter of humans and animals. Human health may be threatened if exposed to creek water that exceeds water quality standards. Results are quantified as coliform forming units (CFU); the OWQS standards are 126 CFU and 236 CFU for recreational use and beach closure, respectively. Collections will be performed following the OWRB Water Quality Programs Division "Standard Operating Procedure for the Collection of Water Quality Samples in Streams". Monthly samples will be analyzed at a state certified lab. Chain of Custody, QAs, and SOPs are on file at City Hall in the Stormwater Program office.

Fish and macroinvertebrate collections: Biological collections are used to determine the health of the creek by sampling organisms in the water. Fish and macroinvertebrates (aquatic bugs) are used as indicators of biological integrity, meaning the presence or absence of certain species may determine if water quality has been affected by pollution. Typically a seine will be the collection gear; however, alternative gears and methods may be used when another entity provides assistance with the collection. Collections will be performed following the OWRB Water Quality Programs Division "Standard Operating Procedure for the Collection of Fish in Streams". A Scientific Collectors Permit issued by Oklahoma Department of Wildlife Conservation (ODWC) will be obtained by Stormwater Program personnel prior to collection activities and a species collection report will be submitted to ODWC at the year's end. Macroinvertebrate collections will be performed by Blue Thumb (OCC) using their collection procedures. Their procedures are consistent, accurate, and provide a fair assessment. QAs and SOPs are on file at City Hall in the Stormwater Program office.

Habitat assessments: The presence or loss of habitat, such as, vegetation, substrate, erosion, debris, and in-stream cover are used as indicators of water quality. Habitat assessments will be performed following the OWRB Water Quality Programs Division "Standard Operating Procedure for the Collection of Habitat Data in Streams". QAs, SOPs, and field forms are on file at City Hall in the Stormwater Program office.

Schedule

- *Water Quality:* Collections for water quality monitoring will be conducted on a quarterly basis to sample within each of the four seasons (spring, summer, autumn, and winter). Additional samples will be taken during storm events throughout the year and record flooding events (i.e., twenty-five year flood).

- Biological: Biological E. coli assessments from Tahlequah Creek will be collected monthly; moreover, additional samples will be collected as needed during the recreational period of May through September. Fish collections will occur during late summer at Tahlequah Creek in years one, two, and four; Ross Branch Creek collection will occur in years three and five. Macroinvertebrate collections will occur during both the winter and summer seasons. Biological collections and habitat assessments will be performed simultaneously to minimize area disturbance and provide more cost-effective monitoring efforts. Sites are subject to change based on need. Recordkeeping and reporting Monitoring protocols, quality assurance plans, standard operating procedures, field forms, and results are stored as files or spreadsheets on the Stormwater Program computer located in City Hall. An ORWMP annual report summarizing program activities and results will be presented to ODEQ on September 1st of each year. The report will be attached with the City of Tahlequah's Phase II MS4 General Permit annual report that summarizes all BMPs used to comply with OKR04 permit requirements within the reportable year. Reports contain discussion, data tables, data analyses, and descriptions of data trends. Partnerships The Illinois River watershed has several concerned entities who have agreed to provide water quality data, lab space, consulting, or other helpful information. In order to develop a scientifically defensible and comprehensive monitoring program, establishing partnerships with various entities is vital to ensure the success of this monitoring plan. Partnerships include: Grand River Dam Authority (GRDA), Tahlequah Public Works Authority (TPWA), Cherokee Nation, Blue Thumb (Oklahoma Conservation Commission (OCC)), and Friends of Town Branch Creek. DISCUSSION Blue Thumb collected chemical monitoring data from 2015-2018

Figure 1. Illinois River watershed

Figure 2. Tahlequah Creek in Tahlequah city limits

DOG PARK SCOOP ON THE POOP

The Dog Park:

The Dog Park provides an area where dogs may enjoy playing in a large fully enclosed area, where owners do not have to worry about a dog fleeing, but with all this fun comes responsibility as an owner. It is the sole responsibility of the owner to clean up after any feces excreted by their Dog/s. Feces that is not picked up in our dog park flows into our creeks and streams where many citizens enjoy outdoor recreation; in addition, someone may step or slip on the feces and if that is not convincing enough "IT IS THE LAW." Be a

HELPFUL INFO:

- All dogs within the park must be fully vaccinated.
- All dogs are required to be registered with the city.
- All dog fecal matter must be picked up by the owner.

THE CITY OF TAHLEQUAH OKLAHOMA

CONSTRUCTION INSPECTION FOR SW COMPLIANCE CHECKLIST

Date:		**Time:**		**Inspector:**	
Site Name:					
Responsible Party (OKR10 Holder):					
Primary Contact Person:					
Current Activities:					
Do we have Erosion Control Plans or a copy of SWPPP?				**Where located?**	
#	**Items Inspected**	**Pass**	**Fail**	**N/A**	**Recommendation or Explanation**
	Site Set Up Controls				
1	Is OKR10 posted on site?				
2	Is SWPPP available on site?				
3	Do they have Land Disturbing Permit?				
4	Is the portable restroom staked down, on solid ground not on a concrete surface?				
5	Is the portable restroom a safe distance from a storm drain in the event of a spill?				
6	Is there a covered dumpster for trash?				
7	Is there a buffer or barrier between build site and any detention areas or water bodies?				
8	Is there an accessible concrete washout?				
9	Is concrete washout posted & maintained?				
10	Is there a gravel construction entrance? If not, why not?				
	Site Protections				
11	Are storm drain inlets protected?				
12	Are the perimeters controls in place? (silt fence or erosion control blanket or socks)			20	
13	Are the perimeter controls adequate?				
14	Are the perimeter controls being maintained				
15	Have exposed areas been stabilized if not				

THE CITY OF TAHLEQUAH OKLAHOMA

QUARTERLY FACILITY INSPECTION EVALUATION FORM

Inspector:		**Date:**
Facility Name:		
Address:		
Procedures		**Y/N**
1.	**Has the facility has developed a Stormwater Pollution Prevention Plan (SWPPP)?** The Stormwater Program Manager is preparing SWP3s for all facilities.	
2.	**Have storm drains and/or drainage areas been checked for issues?**	
3.	**Is there a maintenance schedule for vehicles and equipment?** All City of Yukon vehicles are serviced on a routine basis at our fleet maintenance facility.	
4.	**Are vehicles washed on-site?** City vehicles are washed at indoor car wash located at the fleet maintenance lot with an indoor drain to the sanitary sewer	
5.	**Are vehicle fueled on-site?** City vehicles are fueled at Sanitation.	
6.	**Are landscaping & mowing wastes stored onsite? If not, how are they disposed of?**	
Site Conditions		
7.	**Is facility tidy and organized?**	
8.	**Are waste and storage containers covered, leak proof, and clean on the exterior?**	
9.	**Are blowables and floatables contained and/or covered?**	
10.	**Are any erosion issues visible on the site?**	
11.	**Are all stored materials inside or covered?**	
12.	**Do on-site storm inlets need any added protection or filtration?**	
13.	**If a protection bmp is currently used, does it need replacing?**	
Spill Prevention and Response		
14.	**Are spill clean-up supplies onsite, stocked, and ready for use?**	