



# City of NORMAN Oklahoma



## Public Works Department Stormwater Division POLICY MANUAL

Information and Guidelines for Stormwater Division Staff

February 2019

A blue ink signature of the Public Works Director, consisting of a large, stylized 'S' and 'D'.

Public Works Director

A blue ink signature of Carrie Eenson, the Stormwater Program Manager.

Stormwater Program Manager

**CITY OF NORMAN PUBLIC WORKS DEPARTMENT  
STORMWATER DIVISION  
POLICY MANUAL**

**Table of Contents**

INTRODUCTION .....	1
GENERAL OVERVIEW .....	1
Assignment & Responsible Charge.....	1
SECTION 1.    STORMWATER MAINTENANCE POLICIES .....	3
1.1.    Introduction .....	3
1.2.    Compliance with the City of Norman Engineering Design Criteria .....	3
1.3.    Ownership and Easements .....	3
1.4.    Infrastructure Maintenance Program.....	4
1.4.1.    Drainage Ditches/Bioswales/Vegetated Channels .....	4
1.4.2.    Detention/Retention Ponds .....	5
1.4.3.    Concrete Flumes and Concrete-Lined Channels.....	6
1.4.4.    Storm Drain Inlets, Gully Grates, Catch Basins and Inlet Boxes .....	6
1.4.5.    Manholes .....	7
1.4.6.    Stormwater Pipes .....	7
1.4.7.    Culverts and Bridges .....	7
1.4.8.    Debris Barriers and Trash Racks .....	8
1.4.9.    Infiltration Basins/Ponds/Trenches .....	9
1.4.10.    Underground Detention Systems .....	9
1.4.11.    Energy Dissipaters.....	9
1.4.12.    Fences, Gates, and Water Quality Signs .....	10
1.5.    Dam Safety and Maintenance Program.....	11
1.5.1.    Dam Inventory .....	11
1.5.2.    Dam Inspections.....	12
1.5.3.    Dam Maintenance .....	13
1.5.4.    Records .....	13
1.5.5.    Transfer of Dam Ownership, Liability and Maintenance from Property Owners ..	16

1.6.	Litter Control Program .....	17
1.7.	Street Sweeping Program .....	18
1.7.1.	Introduction .....	18
1.7.2.	Objectives .....	18
1.7.3.	Plan .....	18
1.7.4.	Operations .....	19
1.7.5.	Sweeping Locations .....	26
1.7.6.	Personnel and Equipment Listing .....	28
1.7.7.	Preparing for the Season .....	29
SECTION 2: STORMWATER QUALITY POLICIES .....		30
2.1.	Public Education and Outreach .....	30
2.1.1.	Artful Inlets Program .....	30
2.1.2.	Public Education and Outreach Activities .....	36
2.2.	Public Participation .....	39
2.3.	Illicit Discharge Detection and Elimination .....	40
2.3.1.	Illicit Discharges .....	40
2.3.2.	Dry Weather Field Screening .....	42
2.4.	Construction Stormwater Inspections and Enforcement .....	47
2.4.1.	Ordinance .....	47
2.4.2.	Earth Change Permit Issuance .....	47
2.4.3.	Inspection and Enforcement Procedure .....	48
2.5.	Post-Construction Stormwater Runoff Control .....	59
2.5.1.	Storm Water Master Plan .....	59
2.5.2.	Wichita/Sedgwick County LID Manual .....	59
2.5.3.	Water Quality Protection Zones .....	59
2.5.4.	Manufactured Fertilizer Ordinance .....	60
2.6.	Municipal Good Housekeeping .....	61
2.6.1.	Employee Training .....	61
2.6.2.	Good Housekeeping Plans .....	63
2.6.3.	Municipal Facility Inspection Procedure .....	63
SECTION 3: FLOODPLAIN POLICIES .....		65

3.1.	Introduction .....	65
3.2.	Floodplain Permitting Process .....	65
3.2.1.	Application Process .....	66
3.2.2.	Application Review Process .....	66
3.2.3.	Recordkeeping .....	68
3.3.	Floodplain Inspection and Enforcement Procedure .....	68
3.4.	Community Rating System (CRS) Program Requirements .....	70
3.5.	Post-Flood Inspection Procedures .....	70
SECTION 4: STORMWATER UTILITY POLICIES.....		72
4.1.	Administrative Appeals Process .....	72
4.1.1.	Legal Authority:.....	72
4.1.2.	Process: .....	72
4.1.3.	Anticipated Types of Appeals:.....	72
4.2.	Neighborhood Assistance Program.....	75
4.2.1.	Introduction.....	75
4.2.2.	Project Prioritization .....	75
4.2.3.	Ranking Criteria.....	75
4.2.4.	Application Process .....	75
4.2.5.	Additional Information Checklist .....	76
SECTION 5: EMERGENCY PREPAREDNESS AND RESPONSE .....		79
5.1.	Spill Response .....	79
5.1.1.	Procedure .....	79
5.2.	Disaster Debris Management .....	80
5.3.	Snow and Ice Control .....	80

## **INTRODUCTION**

The City of Norman Stormwater Policy Manual (Manual) is intended for use by City staff in establishing a process for implementation of specific stormwater activities assigned to the Public Works Department, Stormwater Division. The purpose of this Manual is to provide policy and procedure guidance.

There are five separate sections to this Manual. Each section describes the process by which decisions will be made and/or activities completed within the Stormwater Division.

The sections are divided as follows:

1. Stormwater Maintenance Policies
2. Stormwater Quality Policies
3. Floodplain Policies
4. Stormwater Utility Policies
5. Emergency Preparedness and Response

## **GENERAL OVERVIEW**

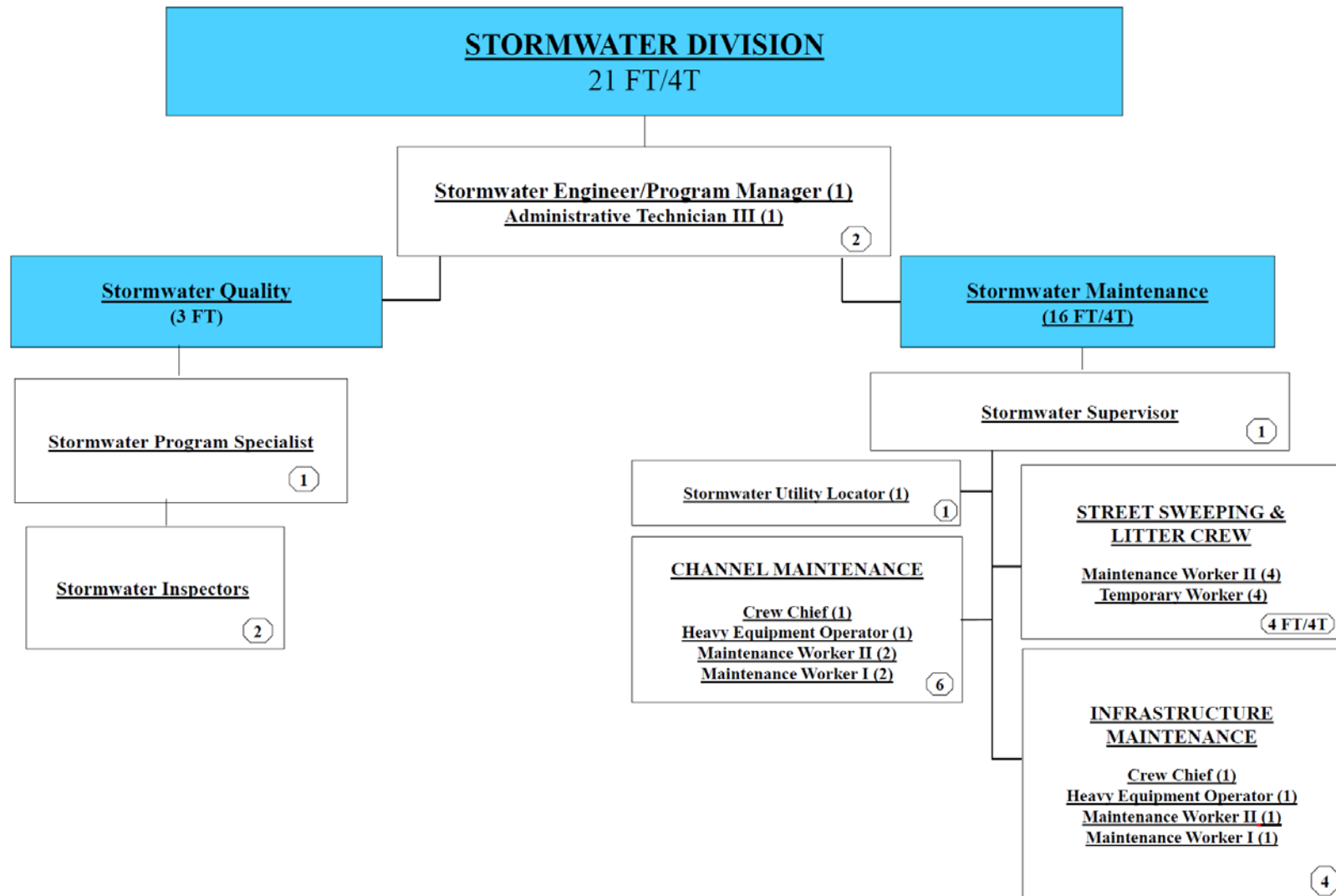
### **Assignment & Responsible Charge**

The Director of Public Works and the Stormwater Program Manager are responsible for the administration of this Manual.

The Stormwater Division Supervisor is responsible for inspection of creeks, streams, rivers, channels, ditches, and detention/retention ponds to ensure that maintenance is conducted in accordance with this Manual and for maintaining compliance with the stormwater maintenance policies outlined in this Manual.

The Stormwater Program Specialist is responsible for maintaining compliance with the stormwater quality policies outlined in this Manual and enforcing the ordinances and regulations on dumping or discharging illegal materials into the drainage system.

Private property owners and/or Homeowners Associations (HOA) are responsible for maintaining the streams, ditches, stormwater inlets, and detention/retention ponds located on their property.



**Figure 1: Stormwater Division Organizational Chart**

## **Section 1. STORMWATER MAINTENANCE POLICIES**

### **1.1. Introduction**

This Section describes the responsibilities and Standard Operating Procedures (SOPs) for operations and maintenance of stormwater infrastructure including channels, streams, ditches, stormwater pipes, detention ponds, inlet boxes, flumes, dams, and other stormwater facilities. This Section covers the following public and private surface drainage facilities delineated in the drainage system map in Figure 1 and includes the following waterbodies: 10 Mile Flat Creek, Brookhaven Creek, Merkle Creek, Imhoff Creek, Woodcrest Creek, and Bishop Creek, Little River, Canadian River, Lake Thunderbird, as well as detention ponds, open channels, flumes, dams, and stormwater pipes.

### **1.2. Compliance with the City of Norman Engineering Design Criteria**

The City of Norman's policy as established by City Ordinance is to follow the Engineering Design Criteria and Standard Specifications and Construction Drawings for Streets, Storm Drainage, Water Lines and Sanitary Sewers.

### **1.3. Ownership and Easements**

The Engineering Design Criteria, Section 5001.3.A, states that "[i]t is the responsibility of all owners of property, whether undeveloped, developed, or undergoing development to [m]ow and provide minor maintenance of drainage channels and their slopes for that portion of the channel lying within their property line." Maintenance responsibility lies with the owner of the land for all channels and detention/retention ponds, except as modified by specific agreement. Infrastructure, such as concrete flumes, stormwater pipes, inlet boxes, ditches, bridges, and dams, located within public drainage easements, rights-of-way, and on city-owned property are maintained by the Stormwater Division.

When maintenance is needed on privately owned channels and detention/retention ponds, the Stormwater Division will notify the property owner(s) of the need for drainage system maintenance. A certified letter is sent to the party notifying them of the need for maintenance. If the maintenance is not performed in the given timeframe, the City may pursue abatement to address the maintenance needs. The property owner will then be responsible for paying for any needed maintenance.

As it becomes necessary to acquire additional easements and rights-of-way, standard procedures will be used.

#### **1.4. Infrastructure Maintenance Program**

There are currently 16 employees that make up 3 crews within the Maintenance group of the Stormwater Division. Two (2) crews are dedicated to stormwater infrastructure and channel maintenance while the third crew is responsible for street sweeping. During and after heavy rainfall events, Street Division crews can be activated for inspection and maintenance of the stormwater system.

During inspection and maintenance operations, crews fill out an inspection and maintenance form and also note the work performed on their time sheets (copies attached). The crew chiefs are responsible for noting the location, date, type of maintenance completed, and employees who performed the work. The forms are then filed at the Lindsey Street Maintenance Yard for a permanent record. The Stormwater Supervisor or his designees shall inspect stormwater infrastructure at least once a year.

There are four main types of maintenance issues:

1. Accumulation of trash and debris, such as garbage, paper, plastic, bottles, shopping carts, furniture, and appliances
2. Minor maintenance problems related to vegetation growth, accumulation of small limbs, and sedimentation
3. Major maintenance problems, such as fallen trees, culvert damage, and beaver dams that obstruct the natural flow of stormwater
4. Structural problems, such as inlet repair or installation, culvert replacement, or bank stabilization

The sections below will describe various stormwater system components and the inspection and maintenance activities required for each component. Basic inspections shall consist of walking or driving the facilities where the Stormwater Division has access through right-of-way or drainage easements. The inspection shall determine the condition of the stormwater system components and the amount of debris present. If maintenance is needed, it is documented, and a work order is created for completion by the Stormwater Maintenance group. If larger structural repairs are needed, the Stormwater Engineer is responsible for design and construction of these through the Capital Improvement Program.

##### ***1.4.1. Drainage Ditches/Bioswales/Vegetated Channels***

Drainage ditches are open channels designed to transport stormwater. Bioswales are open channels designed to filter pollutants, such as sediment, from the stormwater it transports. Both of these types of open channels transport stormwater to stream channels. Inspection and maintenance activities are similar for each of these stormwater conveyance structures.

##### **Inspection**

Each of these stormwater system components should be visually inspected at least once each year. The inspection should look for erosion, bare ground, sediment and debris



accumulation, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Vegetated Channel Inspection Form).

#### Maintenance

Typical maintenance activities for these stormwater system components includes removing debris, leaves, litter, and sediment, clearing blockages from inlets and outlets, routine mowing, and reestablishing vegetation where needed. Obstructions to flow such as woody vegetation (i.e. trees and shrubs) should also be removed on a regular basis.

#### **1.4.2. Detention/Retention Ponds**

Detention ponds are specifically designed stormwater control structures used to hold and slowly release stormwater so that the post-development stormwater runoff rate is the same or less than the pre-development stormwater runoff as required by the City's Engineering Design Criteria as a flood control measure.

#### Inspection

Both publicly and privately-owned ponds are visually inspected by Stormwater Division personnel at least once each year using the following procedure:

1. The Stormwater Compliance Inspectors, the Stormwater Program Specialist, or another designated staff member (Inspector) is responsible for performing detention pond inspections. A detention/retention pond inventory has been created and lists pond identification number, name of owner, address of owner if available, and location.
2. The inspection should look for erosion, bare ground, sediment and debris accumulation, woody vegetation growth, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Detention/Retention Pond Inspection Form).
3. If the pond is privately owned, a copy of the inspection report will be mailed to the pond owner with a request to conduct any required maintenance prior to the next annual inspection. If maintenance is not conducted, the City will pursue abatement as specified above.
4. If the pond is publicly owned, a work order will be created and maintenance activities scheduled.

#### Maintenance

Typical maintenance activities for these stormwater system components include removing debris, leaves, litter, and sediment, clearing blockages from inlets and outlets, routine mowing, repairing erosion and rills, and reestablishing vegetation where needed. Woody vegetation (i.e. trees and shrubs) should also be removed from pond berms/side

slopes and bottoms on a regular basis. Such vegetation can block flow and its roots can lead to berm failure.

#### ***1.4.3. Concrete Flumes and Concrete-Lined Channels***

Concrete flumes and concrete-lined channels are open channels designed to transport stormwater. These stormwater system components use concrete to maintain the stability of the channel and protect them from erosion in contrast to drainage ditches, bioswales, and vegetated channels which use vegetation for these purposes.

##### **Inspection**

A total of 25% of the inventory of these stormwater system components should be visually inspected at least once each year. The inspection should look for sediment and debris accumulation, structural deficiencies, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

##### **Maintenance**

Typical maintenance activities for these stormwater system components includes removing debris, leaves, litter, and sediment, repairing structural deficiencies, and clearing blockages. Obstructions to flow such as woody vegetation (i.e. trees and shrubs) should also be removed on a regular basis.

#### ***1.4.4. Storm Drain Inlets, Gully Grates, Catch Basins and Inlet Boxes***

Storm drain inlets, gully grates, catch basins and inlet boxes direct stormwater runoff from the streets to stormwater pipes. They are used to trap sediment and debris that are washed off the road surface during a storm event.

##### **Inspection**

Storm drain inlets, gully grates, catch basins and inlet boxes are visually inspected at least annually and during and up to 24 hours after rain events for accumulation of sediment and debris as well as for structural integrity. Complaints from citizens received through the Action Center are also investigated by Stormwater Division staff. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

##### **Maintenance**

Typical maintenance activities for these stormwater system components include removing sediment and trash from inlet grates, cleaning inlet boxes/catch basins manually or using vacuum attachment on street sweeper, and removing any sediment that may have entered downstream pipe.

#### **1.4.5. Manholes**

Manholes are large cylindrical vaults usually set at stormwater pipe connections.

##### **Inspection**

Each of these stormwater system components should be visually inspected at least once each year. The inspection should look for sediment and debris accumulation, structural deficiencies, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

##### **Maintenance**

Typical maintenance activities for these stormwater system components includes removing debris, leaves, litter, and sediment, repairing structural deficiencies, replacing broken parts or lids, and clearing blockages.

#### **1.4.6. Stormwater Pipes**

Stormwater pipes are underground structures used to convey stormwater runoff and are constructed of many different types of material including concrete, metal, and plastic.

##### **Inspection**

Pipe inspections require specialized equipment and trained personnel. Routine inspections will occur when the City is able to fund a camera crew for the Stormwater Division. A total of 25% of the inventory of stormwater pipes installed citywide will be inspected annually. The inspection should look for sediment and debris accumulation, structural deficiencies, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance will be noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

##### **Maintenance**

Typical maintenance activities for these stormwater system components includes removing debris and sediment, repairing structural deficiencies, replacing broken parts, sealing leaking joints, and clearing blockages.

#### **1.4.7. Culverts and Bridges**

Culverts are tunnel structures that allow water to flow under a road, railroad, trail, or other embankment from one side to the other. Bridges are structures that carry a road or railroad over a waterway or other physical obstruction.

##### **Inspection**

The City has an inspection contract with an outside consultant to perform inspections of all bridges on the Federal Highway Administration's National Bridge Inventory in Norman every 2 years.

Each of these stormwater system components should be visually inspected at least once each year. The inspection should look for erosion, bare ground, sediment and debris accumulation, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Vegetated Channel Inspection Form). Additionally, the following points are inspected within 24 to 48 hours after each major storm to check for any obstructions to flow:

1. 10 Mile Flat Creek culverts at Robinson Street and Rock Creek Road
2. Brookhaven Creek bridges at Crossroads Blvd., 36th Ave NW, and Main Street
3. Merkle Creek bridges at Main Street, Iowa Street, 24th Ave NW, and Brooks Street
4. Imhoff Creek bridges and culverts at Main Street, Symmes Street, Boyd Street, Lindsey Street, and Imhoff Road
5. Bishop Creek bridges and culverts at Oklahoma Avenue, Mockingbird Lane, and Brooks Street
6. Little River bridges at 12<sup>th</sup> Ave NW north of Tecumseh Road, Franklin Road, and Indian Hills Road near Bel-Mar golf course

#### Maintenance

Typical maintenance activities for these stormwater system components includes removing debris and accumulated sediment, repairing structural deficiencies, replacing broken parts, repairing erosion and rills, and clearing blockages.

#### **1.4.8. Debris Barriers and Trash Racks**

Debris barriers and trash racks are barred covers to pipe openings which prevent large objects from entering stormwater pipes.

#### Inspection

Each of these stormwater system components should be visually inspected at least once each year. The inspection should look for sediment and debris accumulation and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

#### Maintenance

Typical maintenance activities for these stormwater system components includes removing debris, leaves, litter, and sediment, replacing missing or broken racks and bars, and clearing blockages. Obstructions to flow such as woody vegetation (i.e. trees and shrubs) should also be removed on a regular basis.

#### ***1.4.9. Infiltration Basins/Ponds/Trenches***

Infiltration facilities allow stormwater to soak into the ground by holding it in an area with permeable soils. Maintaining the capacity to infiltrate stormwater is a key component to keeping these systems functioning as designed. There are currently no publicly-owned or maintained infiltration facilities. The sections below will be used when any such facilities are installed by the City.

##### ***Inspection***

During the first year after construction, these system components should be visually inspected after every large storm (>1-inch per 24 hours) to ensure the facility is draining as intended. After the first year, they should be visually inspected annually after a rainstorm to see if the facility is draining as intended. The presence of oil sheens and other pollutants should be noted on the inspection form.

##### ***Maintenance***

Typical maintenance activities for these stormwater system components include removing debris, leaves, litter, and sediment, and clearing blockages from inlets and outlets. Woody vegetation (i.e. trees and shrubs) should also be removed from pond berms/side slopes and bottoms on a regular basis. Such vegetation can block flow and its roots can lead to berm failure.

#### ***1.4.10. Underground Detention Systems***

Some detention systems consist of underground tanks or vaults that are usually placed under paved areas. They hold and slowly release stormwater runoff from roofs and pavement. There are currently no publicly-owned or maintained infiltration facilities. The sections below will be used when any such facilities are installed by the City.

##### ***Inspection***

Each of these stormwater system components should be visually inspected at least once each year. The inspection should look for sediment and debris accumulation and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

##### ***Maintenance***

Typical maintenance activities for these stormwater system components includes removing debris and sediment, repairing structural deficiencies, replacing broken parts, and cleaning air vents.

#### ***1.4.11. Energy Dissipaters***

Energy dissipaters are critical for preventing erosion at storm drain outfalls. There are a variety of designs, including wire gabion baskets, rock splash pads, trenches, and specially designed pools or manholes. There are currently no known publicly-owned or maintained

energy dissipaters. The sections below will be used when any such facilities are installed by the City.

#### Inspection

Each of these stormwater system components should be visually inspected at least once each year. The inspection should look for sediment and debris accumulation, structural deficiencies, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form (see Appendix A – Infrastructure Inspection Form).

#### Maintenance

Typical maintenance activities for these stormwater system components includes removing debris, leaves, litter, and sediment and clearing blockages.

#### ***1.4.12. Fences, Gates, and Water Quality Signs***

Fences are installed around the perimeter of storm sewer facilities as a means of protecting the public, as they restrict entrance to the facility. Gates are installed to allow for maintenance access. Gates will be secured shut, typically with a double lock system that allows access to the City and to the property owner's maintenance crew. Water Quality Signs are installed on the fences, or on sign poles, within public view as a means of educating the public as to the presence of a storm sewer facility. These signs also have a number located in the upper right hand corner that is cross referenced, at the City, to an address and maintenance responsibility.

#### Inspection

Each of these stormwater system components should be visually inspected at least once each year during routine maintenance of other stormwater infrastructure. The inspection should look for areas of wear and tear and sign fading.

#### Maintenance

Typical maintenance activities for these stormwater system components includes repairing structural deficiencies, replacing broken parts, and replacing any faded or missing signs.

### **1.5. Dam Safety and Maintenance Program**

Within Norman City limits are a number of dams of significant height with homes and businesses located in low lying areas downstream of the dams. Many of these dams impound a significant pool of water and/or have the potential to temporarily store large volumes of stormwater during flood events. These conditions pose a dam break public safety concern for those that live, work, drive, recreate, and generally occupy the floodplain area downstream of these impoundment structures.

The Storm Water Master Plan (SWMP) identifies twenty-four (24) dams in Norman under the jurisdictional authority of the Oklahoma Water Resources Board (OWRB). Many of these dams were built in the 1960's and may pose a safety risk to downstream homeowners and the travelling public. Only two of those 24 dams, Hall Park Lake Dam and Sutton Wilderness Lake Dam, are currently owned and maintained by the City of Norman. Three (3) of the 24 dams regulated by OWRB are considered high hazard dams: Hall Park Lake Dam, Sutton Wilderness Lake Dam, and Summit Lake/Misty Lake Dam.

The City of Norman promotes properly maintained dams throughout Norman by identifying responsible parties, pursuing partnerships with owners of dams within Norman City limits, and coordinating closely with the OWRB to ensure proper maintenance and safety.

#### ***1.5.1. Dam Inventory***

The Public Works Department, Stormwater Division, is responsible for the following inventory-related activities (see Figure 2):

- Identifying all dams located in Norman;
- Determining dam ownership and responsible party for maintenance of the structure and its appurtenances;
- Classifying dams according to greatest public safety risk;
- Compiling and updating a dam inventory with hazard classifications into a report; and
- Coordinating communications with the City Manager, City Council and other staff as needed.

Dams will be classified in order of priority utilizing the following criteria:

- Height of the dam;
- Condition of the dam and associated principal spillways, the emergency spillways, and the upstream ponding areas;
- Downstream development or impact area of dam failure; and
- Cost and availability of funding (if applicable).

### ***1.5.2. Dam Inspections***

This section pertains only to high hazard dams owned by the City. Inspections of dams not considered high hazard will occur during annual detention/retention pond inspections (see Section 1.4.2 above).

A representative of the City will perform routine inspections on all City-owned high hazard dams to ensure timely identification of potential problems. Inspections will be performed quarterly or as needed during each maintenance activity and annually during the non-flood season, which allows needed work to be completed before spring thunderstorms. Three types of inspections are required to ensure that the flood control structure functions as designed.

1. **Maintenance** inspections of the dam will be accomplished quarterly or as needed during each maintenance activity to identify and report abnormal conditions between the other three types of inspections. Trained personnel of the City of Norman Parks and Recreation Department and/or Public Works Department will perform the monitoring while carrying out operational and maintenance duties. If abnormal conditions are observed, then a special or annual inspection must be scheduled. The condition of the dam and any recommended maintenance is noted on an inspection form (see Appendix A – Dam Inspection Form).
2. **Special** inspections will be conducted immediately following severe storms, earthquakes, vandalism, and other significant events. The condition of the dam and any recommended maintenance is noted on an inspection form (see Appendix A – Dam Inspection Form).
4. **Annual** inspections shall be conducted at least once every year. These inspections are to be accomplished under the direction of a registered professional engineer licensed in the State of Oklahoma and qualified in the design and construction of dams. The purpose of the inspection is to perform a detailed inspection and engineering evaluation of the dam and appurtenances.

The individual conducting any inspection must record all pertinent observations and data. A photographic record of inspections, with locations and dates of photos, can assist in diagnosing and solving problems that may arise. The inspection report and photos shall be placed in the Operation and Maintenance file, which is maintained by the City of Norman Stormwater Division and made available to other parties as deemed appropriate by the dam owners. A copy of the Annual inspection report shall be provided to the Oklahoma Water Resources Board Dam Safety Program.

Preparing an inspection route in advance helps assure that every part of the structure will be observed. The following is a recommended sequence for an inspection:

- **Crest** - Walk along the crest from abutment to abutment.
- **Downstream Toe** - Walk the entire length of the downstream toe.



- **Upstream/Downstream Slope** - Walk across the slope from abutment to abutment in a pattern such that the entire slope is inspected.
- **Emergency Spillway** - Walk along the entire length of the spillway in a back and forth manner.
- **Embankment-Abutment Contacts** - Walk the entire length of the embankment-abutment contacts (groins).
- **Abutments** - Traverse abutments in a practical manner so as to gain a general feel for the conditions that exist along the valley sidewalls.
- **Downstream Channel** - Travel the route of the stream below the dam to maintain familiarity with locations of residences and property that can be affected by dam failure.
- **Reservoir Slopes** - Scout the reservoir perimeter in an effort to develop an overall familiarity with its conditions.

#### ***1.5.3. Dam Maintenance***

The Public Works Department, Stormwater Division, is responsible for the following maintenance-related activities:

- Conducting routine maintenance for City-owned dams;
- Encouraging discussions with responsible parties for dams that pose the greatest hazards to formulate a plan for improved maintenance and partnership with the City where appropriate; and
- Coordinating communications with the City Manager, City Council and other staff as needed.

The Director of Finance is responsible for assisting with the identification of sources of funding and means of collection for any project and related assessments.

The City Attorney is responsible for assisting with negotiations and drafting of agreements as needed.

Routine maintenance tasks for City-owned dams are spelled out in the Operations and Maintenance Plans for each (see Appendix B).

#### ***1.5.4. Records***

The City of Norman Stormwater Division shall maintain the following records in a permanent file at their office for each high hazard dam owned by the City:

- Emergency Action Plan;
- Operation and Maintenance files;
- Inspection Reports;
- As-built drawings, including specifications, original design and construction reports; and

- Correspondence, permits, and related material.

The Operation and Maintenance Plans and Emergency Action Plans will be reviewed at least annually to assess the need for updates. Each plan must be updated if there are changes to any of the following:

- Maintenance provider;
- Equipment or equipment operation;
- Operating instructions;
- Upstream or downstream conditions requiring an alteration of reservoir operation procedures or contacts; and/or
- The dam or any appurtenances.

## Dam Inventory

Dam ID	Dam Name	Location/Nearest Major Intersection	Year Completed	Hazard Classification	Owner Name	Owner Type	Dam Length (ft)	Dam Height (ft)
OK11090	Hall Park Lake	N of E Robinson St & W of 24th Ave NE	1930	High	City of Norman	Local	600	21
OK12572	Sutton Wilderness Lake	S of E Rock Creek Rd & W of 12th Ave NE	1960	High	City of Norman	Local	670	18
OK12578	Summit Lake or Misty Lake	S of E Alameda St & E of 24th Ave NE	1960	High	Summit Lake Property Owners Association	Private	810	21
OK02504	Thunderbird	NW of State Hwy 9	1965	Significant	DOI BOR - OKC Field Office	Federal	7263	144
OK12577	JD McCarty Center Lake	S of E Robinson St & W of 24th Ave NE	1950	Significant	Cerebral Palsy Commission, JD McCarty Center	State	1000	20
OK00488	OKNONAME 027013	S of E Robinson St & E of 24th Ave NE	1950	Low	Department of Mental Health and Substance Abuse	State	540	16
OK00490	Security National Bank & Trust	N of E Alameda St & W of 72nd Ave NE	1955	Low	Charlotte M Herman c/o Herman Weber	Private	610	20
OK02586	Crystal Lake	S of E Rock Creek Rd & W of N Porter Ave	1955	Low	Michelle J. Tull	Private	610	15
OK12573	Western Homes Service Corp	S of E Rock Creek Rd & W of Hallbrooke Dr	1960	Low	Hallbrooke Corporation	Private	600	15
OK12574	National Properties, Inc	W of 36th Ave NE & S of Water Treatment Plant	1960	Low	Billy Ray & Sharon L. Neff	Private	720	26
OK12575	National Properties, Inc	E of 24th Ave NE near Royal Oaks Park	1960	Low	Royal Oaks Home Owners Association	Private	740	16
OK12576	OKNONAME 027014	SW of Veterans Center	1960	Low	Oklahoma Department of Veteran Affairs	Private	525	13.2
OK12579	OKNONAME 027017	N of E Lindsey St & W of Siena Spring Dr	1960	Low	Leslie G. Tietsort	Private	825	20
OK12580	Liberty National Bank & Trust	W of 36th Ave SE & N of E Lindsey St	1960	Low	Robert C. & Melissa J. Pickens	Private	445	30
OK12581	Reynolds Lake	N of E Rock Creek Rd & E of 168th Ave NE	1960	Low	Jay & Susan Jimerson	Private	695	16
OK12582	Brown Foundation, Inc.	N of E Robinson St & W of 84th Ave NE	1975	Low	Brown Foundation, Inc.	Private	750	15
OK12583	McCall O.T. Jr.	E of 24th Ave SE & N of East Lake Dr	1960	Low	O.T. McCall, Jr.	Private	520	26
OK12584	OKNONAME 027008	E of 36th Ave SE & N of Cedar Lane Rd	1960	Low	Vicki L. & Paul Maenza, Jr.	Private	715	18
OK12585	Inter Business Machines	NE of Classen Blvd and E Post Oak Rd	1960	Low	Alan D. Haws	Private	680	24
OK21912	Pyle Ronny	E of 36th Ave SW & S of Norman Center Court	1960	Low	Anthem	Private	0	25
OK21994	University of Oklahoma	Jimmie Austin Golf Course	1979	Low	University of Oklahoma	State	N/A	25
OK22264	OKNONAME 22264	N of Stardust Lane & E of 72nd Ave NE	1997	Low	Lee McMorris	Private	0	27
OK30166	Lower Highland Hills	S of E Tecumseh Rd & W of 48th Ave NE	1960	Low	Highland Hills HOA	Private	400	15
OK30490	Cedar Lake or Black Locust	E of Classen Blvd and N of Cedar Lane Rd	2016	Low	Cedar Lake Estates HOA	Private	300	26

**Figure 2: Inventory of Jurisdictional Dams within Norman City Limits**

#### ***1.5.5. Transfer of Dam Ownership, Liability and Maintenance from Property Owners***

The City will work with owners of dams that pose the greatest hazards to take over inspection and maintenance for the dam. This may involve a transfer of dam ownership or an inspection and maintenance agreement.

Prior to taking on any additional responsibilities for a dam, the City should determine what actions the present owners might have to take to bring and structures into state dam safety compliance. Completion of any actions required of the present owners must be a condition precedent to the City taking over maintenance responsibilities of the dam.

The City should assist property owners, where appropriate and feasible, in developing a funding mechanism for any actions required to bring dam structures into state dam safety compliance.

After the City has accepted ownership of the dam, the property owners will continue to be responsible for general mowing and small scale, minor maintenance activities, including but not limited to, tree removal, inspections after major storms and preventative maintenance regardless of whether the City has agreed to maintain the dam.

If the City takes ownership of, or responsibility for, a dam, such responsibility shall include annual dam inspections, maintenance and repair of the physical dam structure, and other items as may be more specifically set forth in an inspection and maintenance agreement.

## **1.6. Litter Control Program**

The Litter Control Program consists of the following activities:

- Seasonal litter crew consisting of up to 4 temporary employees supervised by a Maintenance Worker II
- Watershed, Park, and Street Clean-up events hosted by the Stormwater Quality section of the Stormwater Division
- Adopt-a-Street Program

Its purpose is to remove litter, debris, and trash from public rights-of-way, drainage channels, parks, city-owned property, and other areas with public easements known to have issues with accumulation of litter. The frequency of cleanup is determined by the accumulation of litter and debris, the schedules of the Roadside Maintenance and Channel Maintenance crews of the Streets and Stormwater Divisions, respectively, and the schedule for special clean-up events.

The Litter Crew Supervisor and/or Stormwater Program Specialist should review safety, training and work zone requirements as necessary with employees and/or volunteers to ensure compliance with approved guidelines. When picking up debris, especially large and awkward items, employees and volunteers should use proper lifting techniques so the chances of personal injury are minimized. Employees/volunteers who discover containers that contain unidentifiable contents should report the information to their supervisor/clean-up lead. Litter crew personnel/volunteers should not move such materials unless it is determined to be non-hazardous. Personal protective clothing equipment, such as gloves and safety vests, should be used when picking up trash. Roadway litter or trash may contain glass and/or other biohazard materials. Extreme care should be exercised so trash bags do not brush against anyone or rupture while loading. If dead animals are encountered, Animal Control should be contacted for removal and disposal.

When conducting litter removal, the following procedures should be used:

1. Ensure that volunteers have signed all necessary liability waiver forms.
2. Review site-specific safety concerns.
3. Setup appropriate traffic control devices when necessary.
4. Remove accumulated litter.
5. Remove traffic control devices when necessary.
6. Record amount collected and report on daily crew report or clean-up event log.
7. Dispose of waste materials at an appropriate site.

Additional information on the Adopt-a-Street program can be found here:

<http://www.normanok.gov/content/adopt-a-street>

## **1.7. Street Sweeping Program**

### ***1.7.1. Introduction***

Street sweeping is one of the most visible aspects of the Public Works Department for both the citizens and the traveling public. Clean streets and gutters not only give the City an overall clean appearance, but helps reduce traffic accidents and air pollution caused by fine dust particles and sand applied during snow and ice storms. Street sweeping is also an important part of the Stormwater Division's Lake Thunderbird Watershed Total Maximum Daily Load (TMDL) Compliance Plan, which requires additional street sweeping along curb-lined streets within the watershed along with biannual inlet cleaning.

Keeping debris off the street and out of the gutters prevents the debris from entering and building up in the stormwater drainage system, which can add to the cost the City faces for cleaning stormwater infrastructure. There are four budgeted full-time team members. The team is responsible for daily maintenance of the sweepers and ensuring that service is performed on the equipment on a regular basis. The Street Sweeping Crew is responsible for sweeping approximately 497 miles, or 994 curb miles (a curb mile is from the center line to the edge of roadway).

Street sweeping also has seasonal demands (see Operations). A maintenance schedule was developed for sweeping from a list of priorities. The analysis of street sweeping contained in this plan is based on the most cost effective and efficient delivery of service.

### ***1.7.2. Objectives***

One of the primary objectives of the City of Norman, Department of Public Works, Stormwater Division is to provide a plan for the safe and orderly movement of emergency equipment, vehicle traffic, and pedestrians through the City.

The Street Sweeping Manual was developed to facilitate this objective as it relates to the Stormwater Division. This objective provides for an attractive City and cleaner arterial streets. In addition, sediment and other pollutants are removed from the municipal separate storm sewer system before it can be discharged to a nearby waterbody. This helps the City meet its permit and TMDL compliance goals and helps to keep the drainage system from being clogged with dirt and debris.

The procedures presented in this Manual serve to outline the manner in which the Street Sweeping Crew performs sweeping operations.

This objective is accomplished using preventative maintenance schedules.

### ***1.7.3. Plan***

It is the plan of the City of Norman, Department of Public Works, Stormwater Division, Street Sweeping Crew to have a plan in writing for sweeping the ever growing infrastructure utilizing a preventative maintenance schedule.

Established plan for Street Sweeping shall be:

- Main arterials are first priority and are swept at least quarterly.
- Action Center requests are done by priority, date of order, and availability of equipment.
- Downtown streets and special districts are swept up to once per month.
- Special requests can occur at any time. Examples include traffic accidents, broken glass, debris in the street, and others. For these requests, the sweeper will stop routine sweeping to address the request.
- Over holidays, school vacations, etc., the Street Sweeping Crew will make it a priority to sweep around schools.
- The Lindsey Street Yard and the Fleet Division North Base Facility (fuel pump island and parking areas) are swept on an as-needed basis.
- All team members have cell phones in their sweepers so they can be reached at all times for emergencies and special requests.

Weather conditions can have a major impact on the Sweeping Plan. Street sweeping will occur as weather conditions allow. Additional sweeping may be required.

#### ***1.7.4. Operations***

##### **Yearly Schedule**

The Stormwater Division's objective is to sweep main arterials at least quarterly. Selected collector streets will be swept up to three times per year. Some selected arterials are swept weekly. The downtown streets and special districts (City Hall, Public Library, Police Station, Main and Gray Street Business District, and the Court House) are swept up to once monthly.

##### **Winter Street Sweeping**

During the winter, the Street Sweeping Crew concentrates on sweeping all snow routes. Sweeping begins as soon as the storm ends and weather permits. The Stormwater Division's objective is to have all snow routes swept within two weeks after a major snow storm. This plan will cut down on air and stormwater pollution and reduce accidents caused by vehicles and motorcycles sliding at intersections due to high volume sanding/salting. After a snow storm, priority sweeping is performed on main arterial and collector streets first then the streets around schools.

##### **Spring Street Sweeping**

During spring street sweeping, the Street Sweeping Crew works a normal eight hour day shift sweeping arterials. Selected collectors are swept once a month. The amount of passes needed in the summer will be lessened and curb miles swept increased by sweeping thoroughly in the spring. During the spring, the Street Sweeping Crew will also participate in periodic inlet cleaning blitzes to remove leaves and debris from inlets in heavily treed neighborhoods.

### Summer Street Sweeping

During the summer sweeping, the Street Sweeping Crew works a normal eight hour day shift sweeping arterials. Selected collectors are swept once a month. Generally, the Division uses four sweepers on a full-time basis with one backup sweeper.

### Fall Street Sweeping

During the fall street sweeping, the Street Sweeping Crew works a normal eight hour day shift sweeping arterials. Selected collectors are swept once a month. During the fall, the Street Sweeping Crew will also participate in periodic inlet cleaning blitzes to remove leaves and debris from inlets in heavily treed neighborhoods.

### Sweeper Debris Hauling/Disposal

Sweeper debris is stockpiled at 668 E. Lindsey, Stormwater Division Facility. The stockpiled debris is composted on site then hauled to a suitable disposal site where any unsuitable debris is removed and taken to a dumpster or the Transfer Station for proper disposal. This is accomplished with a front end loader and dump trucks and usually occurs on a quarterly basis throughout the year.

### Street Sweeping Request

The City of Norman receives street sweeping requests via two methods. First is a request made directly to the Stormwater Division. Second is a request that has been made through the Action Center (a service that provides an information resource for the City residents). Any request by both methods is directed to the Stormwater Program Manager or Stormwater Supervisor for prioritization.

### Special Events

The City of Norman hosts a number of special events, bicycle races, and runs throughout the year. The Stormwater Division Street Sweeping Crew's goal is to sweep before and after each event as time allows. These events include, but are not limited to, the 89ers Parade, Christmas Parade, Downtown Music Festival, and Reeves Park events (baseball, softball tournaments, Fourth of July, and Medieval Fair). The City of Norman also sweeps on Thursday nights before and Sunday nights after home football games held at the University of Oklahoma (seven to eight times per football season, depending upon schedule).

For parades, it is common that all street sweepers, working in pairs, will make three to four passes through the parade area following behind horses. Street Sweepers will also stay after the parade has finished to clean up all trash and debris left behind.

### Equipment Utilization

The City of Norman uses four sweepers, two vacuum sweepers, and two regenerative air sweepers. A combination of quality sweeper operators and quality equipment enable the team to perform the job of street sweeping as efficiently and cost effectively as possible.



The City first started using an air type sweeper in 1988. The air, or vacuum sweeper, cleans at 90% dust free, picking up more of the finer particulate that adds to stormwater and air pollution.

By utilizing the vacuum in combination with the regenerative air sweeper, efficiency and cleanliness increases.

### Maintenance

Approximately 20% of the team member's time is dedicated to daily and weekly equipment maintenance. This maintenance insures the sweepers are kept in quality operating condition.

The team members wash and clean the interior and exterior of the sweeper, grease all the moving parts and make minor adjustments to broom down pressure, center deflectors, rear curtain, and drag shoe alignments. Gutter brooms are changed approximately every 60-80 hours, and belly brooms are changed approximately every 160-240 hours (on average). The Fleet Division performs all engine service and major repairs.

### Sweeper Start-Up Procedures

1. Open hood, check all vital fluids, inspect engine area, and close hood.
2. Check to see if all brooms are in the up position.
3. Climb in right seat, turn key to the "on" position, "Engine Preheat" light will come on, wait until light goes off, start engine.
4. Make sure air pressure is correct and maintaining.
5. Check lights, mirrors, and tires.
6. Check that hopper is in the down position and rear gate is closed.
7. Fill water tank as needed.
8. Check 2-speed gear lever, make sure it is in the "travel" position, and raise any brooms not in the up position using broom levers.
9. Engage transmission, travel to work site, turn on any needed beacons, and arrow boards.
10. Stop sweeper, put transmission in neutral, move 2-speed lever to "sweep" position.
11. Turn broom/elevator switches to on position, lower brooms to ground, engage transmission and sweep work site.
12. Turn on water if necessary.
13. When finished, raise brooms, turn off water, and turn off broom switches.
14. Stop sweeper, put transmission in neutral, put 2-speed lever in travel position, put transmission into drive, turn off needed lights, and travel to dump site.

NOTE: 1. Starting fluid should never be used on sweeper engines.

2. Never sweep up flammable liquids such as gasoline as sparks from broom bristles may ignite such material
3. Never exit the cab of sweeper while brooms are turning. Loose clothing can be caught on moving parts.
4. Fuel tank should be filled at the end of a work shift to prevent condensation in the tank as the moist air cools.

#### Sweeper Dumping Procedures

1. Travel to designated dump site, position sweeper.
2. Put transmission in “neutral”, engage parking brake.
3. Use buttons located in the cab to dump contents of hopper.
4. Engage “tailgate lift” until fully opened.
5. Engage “hopper lift” and raise entire hopper.
6. Reverse “hopper lift” and lower hopper.
7. Reverse “tailgate lift” until fully closed.

- NOTE:
1. Operators wash sweepers at end of day and after dumping, if needed.
  2. If traffic accident debris is swept up, it must be dumped but washing out is not mandatory.
  3. When expired animals are observed in the sweeping area, Animal Welfare is called. Animal Welfare will dispatch an officer for proper disposal.
  4. If washing out is necessary, washing will occur at 668 E. Lindsey. This location is the Stormwater Division Facility which has a proper and fully supplied washout area.

#### Sweeper Wash-Out Procedures/Fill Procedures

1. Park with right side to non-potable water well source.
2. Uncoil water hose, connect hydrant valve to non-potable water well source, then connect water hose to outlet on sweeper, non-potable water well source located at 668 E. Lindsey, Stormwater Division Facility.
3. Turn on non-potable water well source, allowing water to fill tank and then overflow into elevator.
4. Water at non-potable water well source should be turned off, disconnect fill hose, drain and recoil.
5. Connect wash out hose to 2” outlet located at 668 E. Lindsey, Stormwater Division Facility, raise hopper and open hopper to dump position.

6. Turn on water and spray out hopper, lift area, and accessible chassis area. Also wash off any dirt/debris on outside of sweeper. Close and lower hopper.
7. Turn off outlet, disconnect hose and valve, and put away.
8. Park sweeper.

#### *Recordkeeping and Reporting*

Proper documentation of the amounts of material collected, the locations swept, and the number and locations of inlet boxes cleaned is a critical component of the Street Sweeping program. It allows us to quantify the amount of pollutants removed from the City's storm sewer system. To meet these requirements, the Street Sweeping Crew completes daily Sweeping Reports and Inlet/Culvert Maintenance forms.

# DAILY SWEEPING REPORT

**Date**\_\_\_\_\_ **Unit #**\_\_\_\_\_ **Driver**\_\_\_\_\_

**Beginning Mileage**\_\_\_\_\_ **Ending Mileage**\_\_\_\_\_ **Total Mileage**\_\_\_\_\_

**Total Cubic Yards**\_\_\_\_\_ **Total Tonnage** \_\_\_\_\_ **Total Sweeping Miles** \_\_\_\_\_

## PROJECT SWEEPING HOURS

(RURAL) SD 0251_____ Hrs	(EAST) SD 0249_____ Hrs	(WEST) SD 0250 _____ Hrs.
--------------------------	-------------------------	---------------------------

LOAD #		CUBIC YARDS	TONS
<u>LOCATION</u>	<u>LOCATION</u>	<u>LOCATION</u>	<u>SWEEPING MILES</u>
On:	On:	On:	Start:
From:	From:	From:	End:
To:	To:	To:	Total:
On:	On:	On:	Start:
From:	From:	From:	End:
To:	To:	To:	Total:
On:	On:	On:	Start:
From:	From:	From:	End:
To:	To:	To:	Total:
On:	On:	On:	Start:
From:	From:	From:	End:
To:	To:	To:	Total:
On:	On:	On:	Start:
From:	From:	From:	End:
To:	To:	To:	Total:

<p align="center"><b>CITY OF NORMAN -- STORMWATER MAINTENANCE</b></p> <p align="center"><b>DRAINAGE INLET/CULVERT CLEANING OPERATIONS</b></p>
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Page \_\_\_\_\_ of \_\_\_\_\_

<b>DATE:</b>	<b>UNIT NO.</b>	<b>PERSONNEL</b>	<b>SHIFT</b>		
<b>CREW CHIEF:</b>				1.	
				2.	
<b>LOCATION</b>	<b>GRATES</b>	<b>CLEANED</b>	<b>CHECKED</b>	<b>TIME</b>	<b>UNIT NO.</b>
TOTAL GRATES	0				
<b>Additional Information:</b>					
<b>CREW CHIEF SIGNATURE</b>					

### 1.7.5. *Sweeping Locations*

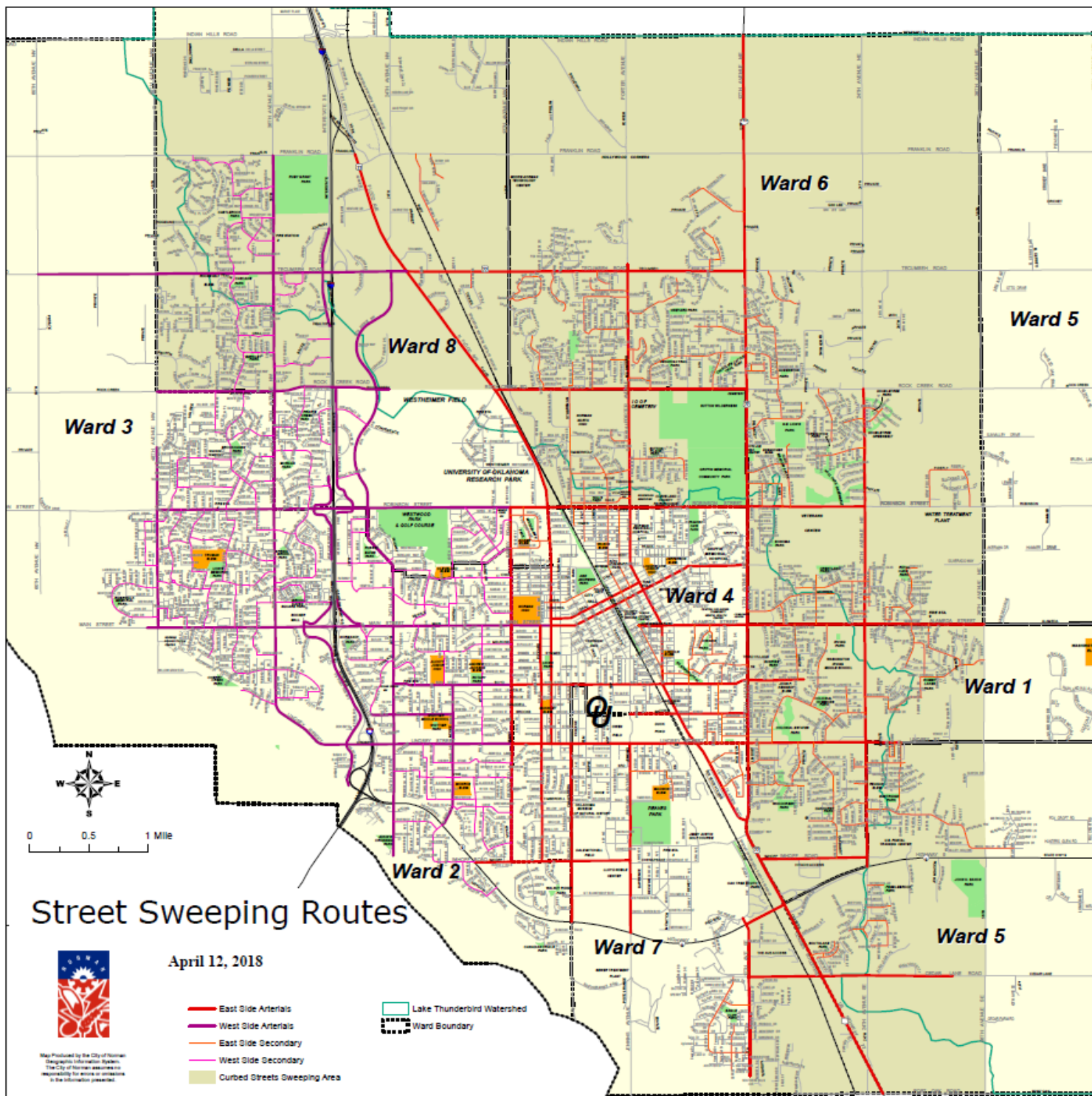
#### Street Priority Listing: North & South Streets

<u>Streets</u>	<u>Limits</u>
1. 48 <sup>th</sup> Avenue N.W.	Main Street to Saddleback Boulevard
2. 36 <sup>th</sup> Avenue N.W. & S.W.	Lindsey Street to Carrington Lane
3. 24 <sup>th</sup> Avenue N.W. & S.W.	Van Buren Street to Tecumseh Road
4. McGee Drive	State Highway 9 to Boyd Street
5. Berry Road	Imhoff Road to Robinson Street
6. Flood Avenue	Hoover Street to Franklin Road
7. Classen Boulevard	Alameda Street to State Highway 77
8. Porter Avenue	Alameda Street to Rock Creek Road
9. 12 <sup>th</sup> Avenue N.E. & S.E.	State Highway 9 to Tecumseh Road
10. 24 <sup>th</sup> Avenue N.E. & S.E.	State Highway 9 to Rock Creek Rd
11. Ed Noble Parkway	Main Street to Lindsey Street

#### Street Priority Listing: East & West Streets

1. Tecumseh Road	48 <sup>th</sup> Avenue NW to 12 <sup>th</sup> Avenue NE
2. Rock Creek Road	48 <sup>th</sup> Avenue NW to Interstate Drive
3. Rock Creek Road	Flood Avenue to 12 <sup>th</sup> Avenue NE
4. Robinson Street	48 <sup>th</sup> Avenue NW to 24 <sup>th</sup> Avenue NE
5. Main Street	Flood Avenue to 48 <sup>th</sup> Avenue NW
6. Main Street	Porter Avenue to 12 <sup>th</sup> Avenue NE
7. Alameda Street	Peters Avenue to Ridge Lake Blvd
8. Boyd Street	24 <sup>th</sup> Avenue SW to 12 <sup>th</sup> Avenue SE
9. Lindsey Street	36 <sup>th</sup> Avenue SW to Berry Road
10. Lindsey Street	Elm Avenue to 24 <sup>th</sup> Avenue SE
11. Imhoff Road	Classen Blvd to 24th Avenue SE
12. Imhoff Road	Chautauqua Ave to State Highway 9
13. Brooks Street	Jenkins Avenue to 12 <sup>th</sup> Avenue SE
14. Brooks Street	McGee Drive to Terrace Place

		MILES	CURB MILES
	All Streets	497	994
	Downtown Streets	11.25	22.50
	Stormwater Division/Fleet Management	6.83	6.83
Total Miles Swept By Stormwater Division		515.08	1023.33



**Figure 3: Street Sweeping Routes Map**

#### ***1.7.6. Personnel and Equipment Listing***

The Stormwater Division has four full-time team members in the Street Sweeping Program, and four street sweepers. Two of the sweepers are a vacuum-type for pulling heavy material, and two sweepers are regenerative air for leaves.

##### **Primary Street Sweeping Crew:**

Maintenance Worker II  
Maintenance Worker II  
Maintenance Worker II  
Maintenance Worker II

All full-time team members are cross-trained in proper procedures used in the Street Sweeping Program and fill in when needed.

##### **Street Sweepers:**

2015 Freightliner  
Vin # 1FVACXDT4FHGC7449  
City Tag # CI23574 Unit 809  
Operator, Maintenance Worker II

2011 Freightliner  
Vin # 1FVXF8001BDAX3814  
City Tag # CI19841 Unit 808  
Operator, Maintenance Worker II

2011 Freightliner  
Vin # 1FVXF8003BDAX3815  
City Tag # CI19481 Unit 810  
Operator, Maintenance Worker II

2018 Peterbilt  
Vin # 3BPPHM7X7JF591593  
City Tag # CI32218 Unit 812  
Operator, Maintenance Worker II



### ***1.7.7. Preparing for the Season***

#### **Personnel Training**

Training personnel on the use of street sweepers is vital. Mechanical breakdowns can occur and be quite costly if improperly operated.

The Stormwater Division has set aside time to train team members within the Division on the proper use and operation of street sweepers and other equipment in high volume traffic. It has been proven that by cross training other team members from outside the Street Sweeping Crew, you can keep all sweepers operating and still accommodate for vacations and unexpected sick leave.

The trainer will ride with the trainee to help them with the operations and geography until such a time as the trainer feels that the trainee is operating the equipment properly and can be allowed to operate it on his/her own.

#### **Preparing Equipment**

All Stormwater Division equipment goes through a pre-trip checklist at the start of every shift and a post-trip at the end of the shift to identify any problems that might occur such as worn parts, burned-out light, flashers, etc.

Pre and post-trip books are great tools to use to really identify any part that might need prompt attention. Major repairs are done during the slower seasons. Of course, the unexpected can happen, but with the pre-trip inspection, many items will be identified.

#### **Parts Inventory**

It is vital for any Public Works Department to inventory and properly stock parts. Without a good inventory system, hours or days of downtime can occur and drive up costs and decrease productivity.

On a daily basis, Sweeper Operators check for wearing parts while doing daily maintenance, and any parts found are noted and added to an ordering list. Brooms and regular wearing parts are always kept in stock and held at the Stormwater Division. All other parts are stocked at the Fleet Division.

## SECTION 2: STORMWATER QUALITY POLICIES

### 2.1. Public Education and Outreach

#### 2.1.1. *Artful Inlets Program*

The Stormwater Division, the Public Arts Board, and the Norman Arts Council have developed a storm inlet art program called the Artful Inlets Program. Its purpose is to educate the general public on the importance of protecting our water resources by reducing the amount of pollution that is carried by stormwater runoff to our creeks and streams through art.

In the inaugural year of this program (FYE 2019), five (5) storm inlets along Main Street between Porter Avenue and University Boulevard will be selected for art installation. The partner organizations will develop a theme, Call for Artists, selection criteria, and procedures for advertising the event, preparing the “canvas”, maintaining the art, and removing the art when necessary.

##### 2.1.1.1. Budget

For FYE 2019, the Stormwater Division, and the Public Arts Board are each contributing \$2,500.00 towards this program. The Stormwater Division, will also provide in-kind services in the form of labor for site preparation and removal, stencil application, and social media promotion. Below is a potential breakdown of expenditures:

- Paint.....\$400
- Primer.....\$100
- Sealant.....\$100
- Paint Stripper.....\$150
- Other Materials.....\$250
- Printed Materials....\$500
- Stencils.....\$250
- Advertising.....\$250
- Artist Stipend.....\$2,000 (\$400 per artist selected)
- Contingency.....\$1,000

##### 2.1.1.2. Site Preparation Procedures

The City of Norman, Stormwater Division, will be responsible for preparing each storm inlet canvas as follows:

1. Mark off a five (5) feet by eight (8) feet area on the sidewalk above the inlet and a one (1) foot by eight (8) feet area on the pavement in front of the inlet grate (see template in Call for Artists).
2. Install inlet protection devices to prevent any debris from entering the storm drain.
3. Pressure wash the above areas to remove dirt and debris.
4. Once area is dry, prime it with a concrete sealer.
5. Block area with safety cones, safety tape, and “Wet Paint” signs until art has been completed.

#### 2.1.1.3. Installation Removal Process

The City of Norman, Stormwater Division, will be responsible for removing each storm inlet art design as follows:

1. Install inlet protection devices to prevent any debris from entering the storm drain.
2. Pressure wash the area to remove dirt and debris.
3. Use eco-friendly paint stripper for porous surfaces as necessary.
4. Remove all residual paint.
5. Restore area with graffiti removal paint if necessary to restore site to pre-installation conditions.

#### 2.1.1.4. Artist Selection Process

The City of Norman operates and maintains a series of underground pipes, open channels, ditches, and roadways used to collect or convey stormwater runoff from our homes and businesses to the nearest body of water, such as a creek, stream, or lake. In urban areas, stormwater runoff from hard surfaces, like roofs and driveways, flows along the side of the road until it reaches a storm drain, which is an opening or grate in the curb connected by pipes to the nearest waterbody. Water and other materials that enter these storm drains are transported directly to our creeks and streams without any treatment. Some of the pollutants that enter our local creeks and streams with stormwater runoff include grass clippings, oil, trash, fertilizers, pesticides, and pet waste.

**The Norman Arts Council, Public Arts Board, and City of Norman are inviting artists to submit designs that will transform city storm drains into works of public art. These *Artful Inlets* will educate and raise awareness that pollutants that go down storm drains have a devastating impact on our local water quality.**

There will be five (5) drains identified for this project. They will all be on Main Street between Porter Avenue and Santa Fe Avenue. The artwork should have a stormwater and/or water quality theme and must be adaptable to any of the five specified drains.

Each selected artist will incorporate their original design into the prescribed area around the storm drain. See below for details.

It is important to note that the ornamental brick area lining Main Street sidewalks (24" to 25.5" wide by 8' long) cannot be painted on or otherwise altered by the artist. It will be taped off and covered with plastic sheeting prior to the artist's scheduled date and time for installation.

#### Submission Rules

- Artists (or a team of artists) must be 18 years or older and a resident(s) of Cleveland County, Oklahoma.
- All designs must be submitted on the provided Design Worksheet.
- Design proposals must be submitted through Submittables no later than February 22, 2019. Only applications submitted through the on-line process will be considered.
- Artists must submit only original designs and, if selected, must install the selected, original design.
- Submissions must include a short artist biography and information about the proposed design
- A list of any additional materials to be used that are not provided by the Public Arts Board must also be included

#### Design Criteria

- Artistic excellence
- Feasibility of executing the proposed design
- Incorporation of the theme
- When designing artwork, each artist is asked to consider the following themes:
  1. Stormwater Pollution AND/OR
  2. Environmental Protection: the importance of cleaner water
- Each design should include a message or phrase that references one or more of the above.
- The design must be appropriate for a public space
- Any materials supplied by the artist must be eco-friendly, not contribute to stormwater pollution, and be pre-approved by the Public Arts Board and the City of Norman
- Designs may not contain any business reference, promotions, or advertisements
- Designs may not contain any breach of intellectual property, brands or trademarks, or depiction of illegal activity

Selected Artists will receive:

- \$400.00 stipend when installation and sealing is completed
- Clean, primed area stationed off with appropriate traffic control devices while painting
- Tent to provide shade over the area while painting
- Sherwin-Williams Armorseal paint – black, white, yellow, red, and blue with a non-slip additive
- Water for painting
- Tubs and containers for water and paint
- Drinking water

Selected Artists must provide:

- The original design
- Execution of the accepted design
- Brushes
- Any other supplies or tools they deem necessary to execute their design

The artists will be selected based on the materials submitted in this application. Artist selection for this project will be made by a panel including City of Norman staff and members of the Norman Public Arts Board who will choose 5 artists and 1 alternate based on the Design Criteria listed above. The Selection Panel will assign a storm drain to each artist upon selection.

Timeline

- Submission deadline is **February 22, 2019**
- Artists will be selected and notified by **March 15, 2019**
- Installation of the artwork will be **April 12 – 14, 2019**
- Event celebrating the artful inlets including official walking tour **TBA**

Defined Space for Artwork

The area that artists are allowed to paint is a five (5) feet by eight (8) feet area on the sidewalk above the inlet and a one (1) foot by eight (8) feet area on the pavement in front of the inlet grate (see Official Design Template).

Artists **MUST** use the Official Design Template to propose designs. Although the various storm drains are shaped differently, the prepared and sealed sidewalk surrounding the drains will be in a rectangular shape. Be mindful that some changes to your design may be required to accommodate the specific location and those will be approved by the Public Arts Board.

Each storm drain is made of metal with a metal grate in front of it that varies in shape and position, as represented in the photos on the template. The shape of the drain is a rectangle. You may paint into the street up to one foot beyond the grate. The design does not have to completely fill the storm drain plot.

It is important to note that the ornamental brick area (24” to 25.5” wide by 8’ long) cannot be painted on or otherwise altered by the artist. It will be taped off and covered with plastic sheeting prior to the artist’s scheduled date and time for installation.

#### Copyright

The design must be original and must not infringe on any other person’s intellectual property rights.

Each selected artist further grants the City of Norman, Norman Arts Council, and the Public Arts Board the exclusive rights to reproduce the design (including electronic images) for fundraising, educational, and promotional purposes.

#### Vandalism

While the City of Norman will provide a clear, vandal-resistance varnish, artists should also be aware that the City of Norman cannot prevent vandalism to said artwork, although every effort will be made to protect it.

#### Maintenance

The finished works will be on working drains and regular maintenance by the City may damage the artwork. Additionally time and/or weather may eventually cause artwork to fade. If, in the opinion of the City, NAC, and PAB, the artwork can be touched-up or refreshed, reasonable attempts will be made to contact the artist to see if they want to do that work without additional compensation.

#### Removal

Artwork must be consistent with submitted and selected artwork. If, in the opinion of the Public Arts Board, the artwork does not reflect the submitted design, the City has the right to remove it partially or completely.

Artists can anticipate the artwork being in place a minimum of one year. However, the City and NAC have the right to remove the artwork at any time if they jointly agree that the artwork is inappropriate due to design, condition, or vandalism. The City reserves the right to remove the artwork immediately if it presents a danger to public safety or the drain needs maintenance, repair, or replacement.

### Liability

Each artist agrees to indemnify and hold harmless the City of Norman, Norman Arts Council, and the Public Arts Board from any loss or damage, any and all third party claims, demands, actions, legal fees or costs for which the Artist is legally responsible, including those arising out of negligence, willful harm, or crimes by the Artist or the Artist's employees, agent or subcontractors. This "hold harmless" agreement shall survive beyond the term of the Artist's service contract.

The City of Norman, Norman Arts Council, and the Public Arts Board will not be liable or responsible for any bodily or personal injury or property damage of any nature that may be suffered by the Artist, their employees, agents or subcontractors in the performance of this Project, except to the extent of any negligence or misconduct on the part of the City of Norman, Norman Arts Council, and the Public Arts Board.

Commissioning of artists is implemented without preference to racial or ethnic origins, sex, sexual orientation, religious affiliation, disability or age.

The Norman Arts Council and the City of Norman reserve the right to modify this solicitation and to request additional information or proposals from any or all participating artists. The Norman Arts Council and the City of Norman also reserve the right to accept or reject, at any time prior to the commissioning of a work, any or all proposals when the acceptance, rejection, waiver or advertisement would be in the best interest of the project. In addition, they may solicit proposals from artists not responding to this call and reserves the right to select an artist outside of the pool of artists responding to this call.

#### 2.1.1.5. Design Installation Process

- Artists will be notified on a specific date established in the Call for Artists if they have been selected as a winner, and results will be posted on the City of Norman website and across multiple social media platforms.
- Non-slip paint will be provided, as well as basic brushes and tubs. Artists may bring their own unique tools and brushes, but should do so at their own expense.
- Painting is scheduled for the month of April. Event organizers will coordinate specific days and times with artists.
- The City of Norman will clean and seal the drains and surrounding areas, but each artist should sweep off their drains with a provided brush prior to painting. The City of Norman will provide traffic cones and traffic control on the designated painting days. Storm drain art must be painted with materials provided by the City of Norman.

### **2.1.2. Public Education and Outreach Activities**

The City of Norman owns and operates a Municipal Separate Storm Sewer System (MS4) and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to develop, and implement a public education and outreach program to distribute information and educational materials to the community or conduct equivalent outreach activities to promote behavior change by the public to reduce pollutants in stormwater runoff and eliminate illicit discharges.

The Public Works Department, Stormwater Division, uses multiple methods to reach the public. Public information is distributed through newspaper advertisements, utility bill inserts, brochures, promotional items, and the City of Norman website. In addition to these routine ways of conducting public education, several activities can be provided by the Stormwater Division at events or by request to outside groups. These include stormwater games, such as Scoop the Poop and Go with the Flow, Enviroscope demonstrations, or readings from the story, *All the Way to the Ocean* by Joel Harper.

#### **2.1.2.1. Procedure**

The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting public education:

1. Choose the method for educating the public. Several methods have been identified and are used by the City of Norman for this purpose. These include print advertising, newsletters, utility bill inserts, promotional items, and brochures. Additionally, several activities have been identified as avenues to distribute said materials. These include email lists, workshops, City events, community presentations, and clean-up events. Below is an approximate frequency for commonly used public education methods:
  - a. Print advertising – Quarterly
  - b. Newsletters (i.e., *The Runoff Roundup*, or the City of Norman Employee newsletter) – Quarterly
  - c. Utility bill inserts – Quarterly
  - d. Brochures – static displays located at City Hall, Norman Central Library, at the Customer Service Counter in Building C, and others
  - e. Workshops – semi-annual Builders Workshop, Lake Thunderbird Watershed Workshop, and others as available
  - f. Events – annual events such as Earth Day Festival, Downtown Fall Festival, Lake Thunderbird Watershed Blitz and other clean-up events, etc.
  - g. Community/School presentations – as requested



2. Select the message to be conveyed to the public. These can be general stormwater messages, or targeted messages that address one type of pollutant (e.g., pet waste), or one type of stakeholder (e.g., builders and developers). When messages are developed, use of the templates created by Compa Creative is highly suggested. Bilingual materials are also available for distribution.
3. Obtain permission to distribute materials. Permission to distribute materials to outside stakeholders is required from the Public Works Director through the Chief Communications Officer and the Stormwater Program Manager. For activities and events, permission is required from the Public Work Director through the Stormwater Program Manager. The memo is routed accordingly.
  - a. A memo following the SW Routing Memo Template to the Public Works Director is to be drafted explaining the purpose, goal of, and describing the material, as well as background information.
  - b. After approval is obtained, the material may be distributed.
  - c. Two exceptions to this process exist.
    - i. One special case is utility insert material. In this case, permission from the Finance Director is needed, as well. The Stormwater Program Manager will send the Finance Director an email with the insert material attached asking for his/her permission after the memo has been routed.
    - ii. The other special case is material to be distributed in the employee newsletter. In this case, permission is only required from the Public Works Director through the Stormwater Program Manager.
4. Assemble any promotional items to be distributed. At activities and events, stormwater promotional items will be available to hand out to attendees/participants.
5. Develop and print waivers and sign-in sheets. Waivers and sign-in sheets are provided to track the number of attendees/participants and provide attendees with the opportunity to subscribe to the quarterly stormwater newsletter, *The Runoff Roundup*.
6. Gather any other necessary items. If appropriate, the Stormwater Division will also bring tables, chairs, table cloths, activity materials, and/or shade tent as needed to display items and materials or to facilitate demonstrations or activities.



office memorandum

Date: January 23, 2018  
To: Shawn O'Leary, Public Works Director  
Through: Claudia Deakins, Chief Communications Officer  
Through: Carrie Evenson, Stormwater Program Manager  
From: Michele Loudenback, Stormwater Program Specialist  
Subject: 2<sup>nd</sup> Quarter-4<sup>th</sup> Quarter CY 2018 Newspaper Ads and Utility Bill Inserts

**Purpose:** To provide information to the general public on the City of Norman's Stormwater Management Program, Phase II MS4 permit, ways they can participate in the program, and ways they can help remove pollutants from our stormwater runoff

**Goal:** To educate the public and affect behavioral change.

**Background:** The City of Norman's Stormwater Management Program and Lake Thunderbird TMDL Compliance Plan both require public education activities to inform the public about the cause of, and ways to help improve, water quality impairment in the Lake and pollutants that can exist in urban stormwater runoff. Placing newspaper ads in the Norman Transcript and sending utility bill inserts to utility consumers provide a great way to perform public education, highlight program elements, and encourage Norman residents to work with us in protecting our water resources.

**Activity Information:**

- **Quarterly Newspaper Ads:**

**Second Quarter Title:** "We Drink Our Stormwater"

**Third Quarter Title:** "Pet Waste is Pollution"

**Fourth Quarter Title:** "Don't Blow It"

- **Quarterly Utility Bill Inserts:**

**Second Quarter Title:** "When the Rain Doesn't Drain: Know Your Flood Hazard Risk"

**Third Quarter Title:** "Don't Blow It"

**Fourth Quarter Title:** "When You're Fertilizing the Lawn, Remember, You're Not Just Fertilizing the Lawn"

With your approval, we will move forward with submitting the ads to the Norman Transcript and the inserts to the print shop.

**Figure 4: Example of a Stormwater Routing Memo for Public Education**

## **2.2. Public Participation**

The City of Norman owns and operates an MS4 and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to develop and implement a public participation program to involve the general public and specific stakeholders in stormwater-related activities. This can occur in the following ways:

1. Action Center Hotline
  - a. The general public can contact the Action Center by phone at (405) 366-5396 or by email at [Action.Center@NormanOK.gov](mailto:Action.Center@NormanOK.gov) to report a suspected violation or pollution concern.
2. City Website
  - a. The Stormwater Management Plan and Storm Water Master Plan are available on the City's website for public review.
3. Stormwater Division Email Address
  - a. The public can contact the Stormwater Division directly using the group email address: [pwstormwater@normanok.gov](mailto:pwstormwater@normanok.gov).
4. Environmental Control Advisory Board (ECAB)
  - a. The Stormwater Division works in collaboration with ECAB, a group of Norman residents appointed by the Mayor, on stormwater-related activities and education.
5. Public Meetings and Activities
  - a. The public can discuss and comment on the stormwater program with Stormwater Division staff at public meetings and events. Staff members will follow-up as necessary.
6. Public Space Clean-up Events
  - a. The public can actively help implement the stormwater program by participating in the Adopt-A-Street program facilitated by the Traffic Division, by suggesting areas for clean-up events, by helping to organize these events, and/or by picking up trash from public spaces in organized events.
7. Blue Thumb Partnership
  - a. The Stormwater Division works in collaboration with Blue Thumb on stormwater-related activities and education.
8. Stormwater Oversight Committee (pending)
  - a. This committee may be formed upon passage of a stormwater utility fee.

## **2.3. Illicit Discharge Detection and Elimination**

The City of Norman owns and operates an MS4 and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to develop, implement and enforce a program to detect and eliminate illicit discharges into its small MS4, including a dry weather field screening program to identify non-stormwater flows.

### ***2.3.1. Illicit Discharges***

#### ***2.3.1.1. Ordinance***

City of Norman Ordinance O-0506-76, adopting the Engineering Design Criteria (EDC) was adopted by the City Council. Section 6000 of the EDC prohibits discharging and dumping of pollutants, and illicit discharges into the MS4. Section 6000 also establishes enforcement actions and penalties for violations of that section.

#### ***2.3.1.2. Inspection Procedure***

In response to calls, emails, or Action Center requests, Stormwater Division staff will use the following procedure to determine the source of a non-allowable non-stormwater discharge to the MS4:

1. When illicit discharges are reported, the Specialist will inform the Stormwater Program Manager (Manager). If additional help is required from other Stormwater Division personnel, such as the Stormwater Infrastructure Crew, Stormwater Channel Maintenance Crew, or Stormwater Street Sweeping and Litter Crew, the Manager will direct the Stormwater Supervisor to initiate such help.
2. The Specialist will note the information required to fill out the Dry Weather Field Screening and Illicit Discharge Report Form. This can be accomplished on the form itself during the inspection or in a notebook with the information to be transcribed on the form at a later time. Photos of the location of the illicit discharge should be attached to the completed form.
3. The Specialist will attempt to determine the nature and origin of the illicit discharge.
  - a. Most illicit discharges will be easily traced back to their origins. If the discharge is determined to be a non-allowable non-stormwater discharge, the Specialist will take steps to eliminate it. These steps can include, but are not limited to, contacting the responsible party, stopping the discharge if safe and accessible, contacting an environmental remediation company, and/or taking enforcement measures.

- b. For those discharges that cannot easily be traced back to their origins, the Specialist can use other means to help determine their natures, including taking water quality samples and submitting them to a DEQ-certified laboratory for analysis, using field test strips, using video cameras, and/or dye testing infrastructure.

#### 2.3.1.3. Enforcement Procedure

Stormwater Division staff will use the following enforcement sequence when necessary to eliminate the source of a non-allowable non-stormwater discharge to the MS4:

1. *Verbal Notification.* In most cases, a verbal notification to the responsible party is sufficient for the responsible party to take action and correct/eliminate the discharge. If a violation is egregious and willful, or the responsible party is unresponsive, other remedies are available.
2. *Issuance of a Notice of Violation (NOV).* If a violation of the ordinance is egregious and/or the responsible party is unresponsive, a NOV should be issued. The NOV is a formal, legal notice in the form of a letter that a violation is occurring which requires attention and action. A course of action and time schedule to correct the violation will be included in the letter as well as possible consequences of non-compliance. A typical deadline for correction of illicit discharge violations is 5 days. The NOV is sent via certified mail, and the delivery is tracked.
3. *Issuance of an Order to Cease and Desist.* In certain cases, especially if the discharge is determined to cause an unacceptable health or environmental risk, a cease and desist order may be issued which requires the responsible party to cease and desist all violations, to immediately come into compliance with the ordinance, and to take any necessary remedial action.
4. *Abatement.* In the case of a violation which is determined to cause an unacceptable and immediate health or environmental risk, steps to abate the violation can be taken by the City. Additionally, costs for such abatement can be charged back to the responsible party.
5. *Administrative Fines.* Any person or entity found to be in violation of the ordinance may be fined an amount of not less than fifty dollars (\$50.00) nor more than two hundred dollars (\$200.00) for each violation or failure to comply.
  - a. Fines must be paid within fifteen (15) days of receipt of notification.
  - b. Each day that a violation exists constitutes a separate and distinct offense.
  - c. Lien against the responsible party's property can be levied for unpaid fines.

6. *Water Service Severance.* Responsible parties who violate the ordinance can be subject to severance of water service from the City. Service will recommence at the responsible party's expense when compliance is achieved or written arrangements to correct the violation(s) are submitted to, and approved by, the City.
7. *Suspension of Permit Issuance.* A responsible party of a violation(s) of the ordinance can be denied the issuance of any other City permits, approvals, or inspections until the violation(s) is corrected or written arrangements to correct the violation(s) are submitted to, and accepted by, the City.
8. *Injunctive Relief.* If a violation or violations of the ordinance, the District Court may be petitioned for a preliminary or permanent injunction to restrain or compel action from the responsible party.
9. *Criminal Prosecution.* For violations of the ordinance, the responsible party can be liable to criminal prosecution by the City of Norman in Municipal Criminal Court for a maximum penalty of one thousand dollars (\$1000.00) per violation per day and/or imprisonment for a period of not more than thirty (30) days.
10. *Remedies Nonexclusive.* The City can take any, all, or any combination of these actions against responsible parties of illicit discharges.

### **2.3.2. Dry Weather Field Screening**

#### **2.3.2.1. Procedure**

The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting DWFS:

1. DWFS should occur during dry periods, as the name suggests. Dry weather is defined as a minimum of 72 hours of no rainfall (0.1") within an area. The Stormwater Program Specialist (Specialist) will use Mesonet readings to ensure that the definition of dry weather is met before conducting the screening.
2. Before performing the screening, the Specialist will determine the outfalls to be screened by referring to the visual screening list and accompanying completed inspections for the current fiscal year. Following the watershed downstream as screening occurs is considered best practice. If necessary because of safety concerns, the Specialist will coordinate with the Stormwater Compliance Inspectors to obtain additional help.
3. The Specialist will note the information required to fill out the Dry Weather Field Screening and Illicit Discharge Report Form. This can be accomplished on the form itself during the screening or in a notebook with the information to be transcribed on the form at a later time. Photos of the outfall should accompany the screening and be attached to the completed form.

4. If a flow is found at the outfall, the Specialist will attempt to determine the nature and origin of the flow.
  - c. Most flows will be easily traced back to their origins. If the flow is determined to be a non-allowable non-stormwater discharge, the Specialist will take steps to eliminate it. These steps can include but are not limited to: contacting the responsible party, stopping the flow if safe and accessible, contacting an environmental remediation company, and/or taking enforcement measures.
  - d. For those flows that cannot easily be traced back to their origins, the Specialist can use other means to help determine their natures, including taking water quality samples and submitting them to a DEQ-certified laboratory for analysis, using field test strips, using video cameras, and/or dye testing infrastructure.
5. When illicit discharges are discovered, the Specialist will inform the Stormwater Program Manager (Manager). If additional help is required from other Stormwater Division personnel, such as the Stormwater Infrastructure Crew, Stormwater Channel Maintenance Crew, or Stormwater Street Sweeping and Litter Crew, the Manager will direct the Stormwater Supervisor to initiate such help.
6. The Specialist will document the DWFS findings for each outfall by completing the Dry Weather Field Screening and Illicit Discharge Report Form and saving it in the appropriate file.



## DRY WEATHER FIELD SCREENING & ILLICIT DISCHARGE REPORT FORM



### SECTION 1: BACKGROUND DATA

Hydrologic Unit Code (HUC) 12 Watershed:	DWFS <input type="checkbox"/>	Complaint <input type="checkbox"/>	Date: Time:
Outfall ID: B2 OR Generating Site Address: <input type="text"/>			
Investigators:		Form completed by:	
Rainfall (in.): Last 24 hours: Last 48 hours:		Photo #'s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial <input type="checkbox"/> Ultra-Urban Residential <input type="checkbox"/> Suburban Residential <input type="checkbox"/> Commercial		<input type="checkbox"/> Open Space <input type="checkbox"/> Institutional Other: <input type="text"/> Known Industries: <input type="text"/>	
Notes: Concrete channel into a natural stream; shopping cart in concrete channel behind maintenance building			

### SECTION 2: OUTFALL DESCRIPTION

LOCATION	MATERIAL	SHAPE	# OF PIPES	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: <input type="text"/>	Diameter/Dimensions: <input type="text"/> <input type="text"/>	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully  With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-rap <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: <input type="text"/>	Depth: <input type="text"/> Top Width: <input type="text"/> Bottom Width: <input type="text"/>		
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				



Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 4</i>
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial

### SECTION 3: PHYSICAL INDICATORS FOR FLOWING OUTFALLS ONLY

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 4)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

### SECTION 4: PHYSICAL INDICATORS FOR BOTH FLOWING AND NON-FLOWING OUTFALLS

Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	<input type="text"/>
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: <input type="text"/>	<input type="text"/>
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	<input type="text"/>
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odor <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other: <input type="text"/>	<input type="text"/>
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: <input type="text"/>	<input type="text"/>

**SECTION 5: MODE OF ENTRY**

<input type="checkbox"/> Sewer cross connection	<input type="checkbox"/> Industrial cross connection
<input type="checkbox"/> Straight pipe	<input type="checkbox"/> Seepage
<input type="checkbox"/> Commercial cross connection	<input type="checkbox"/> Spills
<input type="checkbox"/> Outdoor washing	<input type="checkbox"/> Non-target
<input type="checkbox"/> Other	<input type="checkbox"/> Sewer overflow
Location of entry to stormsewer: _____	

**SECTION 6: GENERATING SITE**

<input type="checkbox"/> Residential	<input type="checkbox"/> Institutional
<input type="checkbox"/> Sewer cross connection	<input type="checkbox"/> Natural Causes
<input type="checkbox"/> Municipal	<input type="checkbox"/> Unknown
<input type="checkbox"/> Industrial	<input type="checkbox"/> Other
Location of discharge origin: _____	
Estimated amount of discharge: _____	

**SECTION 7: ANY NON-ILLICIT DISCHARGE CONCERNS  
(E.G. TRASH OR NEEDED INFRASTRUCTURE REPAIRS)?**

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**SECTION 8: ANY ANALYSES PERFORMED; IF SO, WHAT?**

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**Pictures:**

## **2.4. Construction Stormwater Inspections and Enforcement**

The City of Norman owns and operates an MS4 and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to implement and enforce a program to implement and enforce the program to reduce pollutants in any stormwater runoff to your MS4 from construction activities that result in a land disturbance of greater than or equal to one acre or is part of a larger common plan of development or sale that would disturb one acre or more.

### ***2.4.1. Ordinance***

City of Norman Ordinance O-0506-76, adopting the Engineering Design Criteria (EDC) was adopted by the City Council. Section 5000 of the EDC contains requirements for erosion and sediment control from construction activities, permitting requirements, and enforcement options.

### ***2.4.2. Earth Change Permit Issuance***

This policy specifies the documents which must be submitted to the City of Norman Stormwater Division for issuance of an Earth Change Permit. The Earth Change Permit (ECP) is required prior to any earth disturbing activities, including developing, grading, excavating, paving, landfilling, berming or diking on any site with a disturbed area of one acre or more in most instances. The ECP allows for initial site clearing for installation of erosion control best management practices (BMPs) such as sediment basins, construction entrances, and perimeter erosion controls.

Materials required for issuance of an ECP are;

1. A completed City of Norman Earth Change Permit Application Form
2. An Erosion and Sedimentation Control Plan
3. A copy of the Oklahoma Department of Environmental Quality (ODEQ) Notice of Intent (NOI) Form
4. A copy of the project Stormwater Pollution Prevention Plan (SWP3)
5. A copy of the ODEQ Authorization for Permit OKR10
6. Permit Fee of \$100 plus \$10 per acre

Upon receipt of all required documents, the City of Norman will review the submittals. If the submittals are found to be complete and meet City requirements, the ECP will then be issued within five days of receipt of the complete application. Applications should be made and signed by the owner/developer or general contractor of the project. This person shall be held responsible for permit compliance.

Any site with disturbed area within the Lake Thunderbird watershed and any site with a disturbed area of one acre or more outside the Lake Thunderbird watershed which does not obtain an ECP prior to commencing any earth disturbing activity will be considered in violation of The City of Norman Code of Ordinances, including the Engineering Design

Criteria. Any potential inspection and enforcement actions will follow the process outlined in Section 2.4.3 below.

#### **2.4.3. *Inspection and Enforcement Procedure***

The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting construction site stormwater inspections and enforcement:

1. Before conducting a site inspection, the Stormwater Compliance Inspector (Inspector) will review the site Stormwater Pollution Prevention Plan (SWP3) and notify the permittee or his/her representatives (Permittee) by phone or email that s/he is going to make an initial inspection, also known as a Compliance Assistance Visit (CAV), of the site. This contact is made to provide the Permittee with an opportunity to be present during the inspection and provide any necessary site documentation to the Inspector. This notice will occur at least one day prior to the CAV.
2. At the date and time noted, the Inspector will conduct the CAV to verify that the site conforms to the SWP3 and complies with the City's Engineering Design Criteria (EDC).
3. After the CAV, the Inspector will hold an exit interview with the permittee or her/his representatives, if present, in order to explain any deficiencies identified by the Inspector and provide technical assistance on how to address these deficiencies. Two types of deficiencies may be identified by the Inspector: critical and non-critical.
  - a. Critical deficiencies are potential violations that pose significant threats to human health and the environment and must be corrected within 14 days of identification or receipt of the CAV report. If critical deficiencies are found, the Inspector will explain them to the Permittee, document them on the CAV report, and provide a deadline for correction. The deadline for correction may be extended beyond the usual 14 day deadline if extenuating circumstances exist and the extension has been approved by the Stormwater Program Specialist (Specialist).
  - b. Non-critical deficiencies are potential violations that pose less significant threats to human health and the environment. For any non-critical issues found at the site, the Inspector will explain them to the Permittee, document the deficiencies on the CAV report, and request that the non-critical deficiencies be corrected by the next regularly scheduled inspection or CAV. If the corrections are not made by the next regularly scheduled inspection, the non-critical issues will be treated as critical issues.
4. Upon completion of the CAV, the Inspector will draft a CAV report and email it to the Permittee. A copy of the sent email and the CAV report will be saved in the

site's file to document the site visit. If critical deficiencies are found, the Inspector will attach photos of these issues to the email along with the CAV report. The Inspector will summarize the findings of the CAV, including both critical and non-critical deficiencies, along with any on-site or telephone conversations with the Permittee in the body of the email.

5. When critical deficiencies are identified during a CAV, a formal site inspection will be scheduled on or after the 14-day deadline. The Inspector will notify the Permittee of the date and time of the site inspection. On that date and time, the Inspector will complete a site inspection.
  - a. If the critical deficiencies identified during the CAV have been corrected, the Inspector will document this on the inspection form and note this during the exit interview with the Permittee. If no additional critical deficiencies are noted, the site will return to routine inspection timelines.
  - b. If the critical deficiencies identified during the CAV are found during the site inspection, the Inspector will document these on the site inspection form. The Permittee will be notified of the repeat critical deficiencies during the exit interview and will be given a 48-hour deadline to correct these deficiencies. The Permittee will also be notified that a Notice of Violation (NOV) will be issued if the critical deficiencies are not corrected within 48 hours. The Inspector may consult with the Specialist to extend the deadline if extenuating circumstances are present. If the permittee is not present on site, the Inspector will call him/her to explain the repeat critical deficiencies and to provide the 48-hour deadline and follow up with an email.
  - c. If non-critical deficiencies identified during the CAV are still present during the site inspection, they will be elevated to critical deficiencies, and the Permittee will be given 14 days to address these deficiencies as described in Step 3a above.
6. The Inspector will notify the Specialist and the Stormwater Program Manager (Manager) that the site is at the 48-hour deadline stage and that an NOV may need to be issued.
7. The Inspector will email a copy of the site inspection report to the Permittee and save a copy of the sent email and the inspection report to the site's folder to document the inspection. Additionally, the Inspector will include a summary of the conversation s/he had with the permittee regarding the repeat deficiencies and note the 48-hour deadline in the body of the email.
8. After the 48-hour deadline has passed, the Inspector will conduct a follow-up inspection.

- a. If the deficiencies documented on the inspection report are corrected, the Inspector will note this on the follow-up inspection form and to the Permittee. At this time, the site will return to routine monitoring timelines.
  - b. If the repeat critical deficiencies are still present, the Inspector will note these on the inspection form and explain to the permittee that an NOV will be issued. If the permittee is not on site, the Inspector will telephone the permittee, describe the repeat violations, and inform the permittee that an NOV will be issued. The Inspector should also confirm the mailing address of the permittee at this time.
9. The Inspector will email a copy of the follow-up inspection form to the permittee. Additionally, the Inspector will include a summary of the conversation s/he had with the permittee in the body of the email explaining that an NOV will be issued. The Inspector will save a copy of the sent email and inspection in the site's folder to document the follow-up inspection.
10. The Inspector will prepare the NOV documentation and forward it to the Specialist for review. After it has been reviewed, the Specialist will submit the NOV form and documentation to the Manager for review and signature.
11. The Manager will review, sign, and issue the NOV. The NOV will include a deadline by which the Permittee must provide a written response providing a plan to bring the site into compliance or noting that the critical deficiencies have been addressed.
  - a. If a response is received, the Inspector will work with the Permittee to insure that the site is brought into compliance or document that the critical deficiencies have been addressed. Once the site is in compliance, the Inspector will document this on an inspection form, and the site will be returned to routine monitoring as outlined in Step 3 above.
  - b. If no response is received, the Inspector will contact the Permittee and proceed with Step 12.
12. On or after the deadline in the NOV, the Inspector will notify the Permittee of the date and time of the follow-up inspection of the site. During the follow-up inspection, if critical deficiencies are still identified, the Inspector will notify the Permittee of this during the exit interview and ask the permittee to correct the critical violations within 48 hours. The Inspector will inform the Permittee that the next step in the enforcement process is a Stop Work Order and that the Stop Work Order will be issued if the critical violations aren't corrected by the end of the 48-hour deadline. If the permittee is not present on site, the Inspector will telephone him/her to explain the repeat critical violations and to provide the 48-hour deadline.
13. The Inspector will email a copy of the follow-up inspection report to the Permittee. Additionally, the Inspector will include a summary of the conversation

s/he had with the Permittee in the body of the email explaining that a Stop Work Order will be issued if the critical violations are not corrected within 48 hours. The Inspector will save a copy of the email and inspection report in the site's folder to document the follow-up inspection.

14. After the 48-hour deadline has passed, the Inspector will perform another follow-up inspection.
  - a. If the violations have been corrected, the Inspector will note this on the follow-up inspection form and to the Permittee during the exit interview. Once the site is in compliance, the Inspector will document this on an inspection form, and the site will be returned to routine monitoring as outlined in Step 3 above.
  - b. If the critical deficiencies identified in Step 13 above have not been corrected, the Inspector will note them on the follow-up inspection form and notify the Permittee that a Stop Work Order will be issued. If the Permittee is not on site, the Inspector will telephone the Permittee, explain the repeat violations, and inform the Permittee that a Stop Work Order will be issued.
15. The Inspector will email a copy of the follow-up inspection report to the Permittee. Additionally, the Inspector will include a summary of the conversation s/he had with the Permittee in the body of the email explaining that a Stop Work Order will be issued. The Inspector will save a copy of the email and inspection report in the site's folder to document the follow-up inspection.
16. The Inspector will prepare the documentation for the Stop Work Order, including a summary of all contacts with the Permittee, the inspection history of the site from the date of permit issuance until the present, the copies of the emails sent to the Permittee, and the NOV packet. This information will be provided to the Specialist to review and forward to the Manager for further action.
17. The Manager will review the Stop Work Order documentation and provide it to the Public Works Director for approval to proceed with the Stop Work Order.
  - a. If the Stop Work Order is approved, the Stormwater Program Manager will request the Permit Manager issue a Stop Work Order.
18. The Inspector will inform the Permittee that a Stop Work Order has been issued. Once a Stop Work Order has been issued, all activity not related to correcting the critical deficiencies must stop. The Permittee must notify the Inspector when the critical violations have been corrected so that the Inspector can perform a follow-up inspection and lift the Stop Work Order.
19. When the Permittee has notified the Inspector that the violations have been corrected, the Inspector will inspect the site to verify that the critical deficiencies has been addressed.

- a. If the corrections have been made, the Inspector will note it on the follow-up inspection form and to the Permittee. If the Permittee is not on site, the Inspector will notify him/her by telephone. The Inspector will inform the Permittee that the Stop Work Order is lifted. The Inspector will inform the Specialist that the Stop Work Order is lifted. The Specialist will inform the Permit Manager, the Manager, and the Public Works Director that the Stop Work Order has been lifted.
  - b. If the corrections have not been made, the Stop Work Order will remain in effect, and the Inspector will note this on the follow-up inspection form and to the Permittee. If the Permittee is not on site, the Inspector will notify the Permittee by telephone, explain the inspection findings, and request a timeline for corrections. The Inspector will repeat this step until corrections have been made and the site is back in compliance. The Inspector will inform the Stormwater Program Specialist on the site's progress daily.
20. The Inspector will email a copy of the follow-up inspection form to the Permittee. Additionally, the Inspector will include a summary of the conversation s/he had with the Permittee in the body of the email. The Inspector will save a copy of the email and inspection report in the site's folder to document the follow-up inspection.
21. Once the site is once again in compliance, inspections will return to routine monitoring as described in Step 3 above.





# CITY OF NORMAN STORMWATER QUALITY EARTH CHANGE PERMIT APPLICATION

Note: Please print or type all data.



## PROJECT INFORMATION

NAME OF PROJECT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

DISTURBED AREA (ACRES): \_\_\_\_\_ LATITUDE: \_\_\_\_\_ LONGITUDE: \_\_\_\_\_

PROPOSED START DATE: \_\_\_\_\_ PROPOSED END DATE: \_\_\_\_\_

LOCATION OF STORMWATER POLLUTION PREVENTION PLAN (SWP3): ☐ ONSITE ☐ OFFSITE ☐ N/A

ADDRESS (IF LOCATED OFFSITE): \_\_\_\_\_

## APPLICANT/OWNER/OPERATOR ☐ PRIMARY CONTACT ☐ SECONDARY CONTACT

NAME (PRINTED): \_\_\_\_\_ COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

PHONE: \_\_\_\_\_ CELL: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

## GENERAL CONTRACTOR ☐ PRIMARY CONTACT ☐ SECONDARY CONTACT

☐ CHECK IF SAME AS APPLICANT

NAME (PRINTED): \_\_\_\_\_ COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

PHONE: \_\_\_\_\_ CELL: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

## ENGINEER/DESIGNER

NAME (PRINTED): \_\_\_\_\_ COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

PHONE: \_\_\_\_\_ CELL: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

### FOR OFFICE USE

PERMIT#: \_\_\_\_\_ WARD: \_\_\_\_\_ FEE: \_\_\_\_\_

WATERSHED: \_\_\_\_\_ SUB-WATERSHED: \_\_\_\_\_

RECEIVING WATER: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

### SUBMITTALLS

☐ NOI

☐ SWP3

☐ ECP

☐ CHECK



## CITY OF NORMAN STORMWATER QUALITY EARTH CHANGE PERMIT APPLICATION



### **PERMIT AND INSPECTIONS INFORMATION**

The following materials shall accompany this permit application before permit can be issued:

- 1) Copy of the Notice of Intent (NOI) that has been filed with Oklahoma Department of Environmental Quality (ODEQ).
- 2) Copy of the Stormwater Pollution Prevention Plan (SWP3).
- 3) Copy of the Erosion and Sedimentation Control Plan.
- 4) Payment of \$100.00 plus \$10.00 per acre.
- 5) Copy of ODEQ Authorization letter.

Prior to commencing any earth disturbing activity, temporary erosion control measures must be installed.

During all construction activity and all other non-construction activity, developers, property owners, and contractors shall be required to keep streets, gutters, inlets, drainage pipes, swales, ditches, drainage channels, and all drainage devices and structures clean and free from debris, sedimentation, soil, and any matter.

Erosion control measures must be regularly inspected and maintained. Records of all inspections must be kept and available for viewing at any time.

City officials may make regular bi-weekly inspections and/or site visits of the job site.

Failure to maintain adequate erosion and sediment control best management practices or other violations of these requirements may result in enforcement in accordance with Section 16-102 of the City of Norman Code of Ordinances.

### **CERTIFICATION**

All applications shall be made and signed by the owner/developer or general contractor of the project. This person shall be held responsible for all erosion control activities described in the SWP3. Please check that your current address and phone number are listed on page 1 of the permit application.

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

Name (Please Print): \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Figure 5: Earth Change Permit Application**



City of Norman  
Stormwater Division



CONSTRUCTION SITE COMPLIANCE ASSISTANCE VISIT



Site Name/Address/Responsible Party	
Date/Time: <a href="#">Click here to enter a date.</a>	Current Weather: <a href="#">Select Weather</a>
Current Activity: <a href="#">Inactive</a>	Quantity: <a href="#">Select a Quantity</a>
Last Rain Date: <a href="#">Click here to enter a date.</a>	Last Inspection Date: <a href="#">Click here to enter a date.</a>

Deficiency	Yes	Recommendation
No Earth Change Permit	<input type="checkbox"/>	
Non-allowable Discharge	<input type="checkbox"/>	
Erosion/Sediment Control Installation	<input type="checkbox"/>	
Buffer Implementation	<input type="checkbox"/>	
Materials Washout	<input type="checkbox"/>	
Medium and Large Spills	<input type="checkbox"/>	
Inlet Protection, No Basin	<input type="checkbox"/>	
Construction Entrance with Tracking	<input type="checkbox"/>	
Vehicle/Equipment Tracking outside Project	<input type="checkbox"/>	
Portable Toilet Installation	<input type="checkbox"/>	
Repeat Non-Critical Issue		
Records	<input type="checkbox"/>	
BMP Maintenance	<input type="checkbox"/>	
Vehicle/Equipment Tracking inside Project	<input type="checkbox"/>	
Solid Waste Management	<input type="checkbox"/>	
Stabilization	<input type="checkbox"/>	
Small Spills		
Portable Toilet Installation	<input type="checkbox"/>	
Other	<input type="checkbox"/>	

- ☐ No critical deficiencies noted. Please make any changes relative to non-critical deficiencies by the next inspection.
- ☐ Critical issues found. The critical issues should be corrected within 14 calendar days from email notification, unless otherwise noted, to avoid further action. Pictures will accompany the email notification. Critical issues are denoted by **bolding**. Other changes should occur by the next inspection.

Inspector's Name:

Date:

### Deficiency Description:

#### Critical:

- **No Earth Change Permit:** There is no Earth Change Permit on file with the city of Norman.
- **Non-allowable Discharge:** There is a discharge from the site of one or more of the following: sediment, materials washout, dust, solid waste, or other pollutants.
- **Erosion/Sediment Control Installation:** One or more erosion and/or sediment controls has/have been installed improperly. These controls include, but are not limited to, silt fence, compost sock, straw wattle, triangular silt dike, rock check dams, mulch (including hydromulch), sediment basins, etc.
- **Buffer Implementation:** The appropriately sized buffer or equivalent controls has/have not been implemented near adjacent waterways.
- **Materials Washout:** There is washout on the ground of certain materials including, but not limited to, concrete, paint, stucco, drywall mud, and/or other pollutants.
- **Medium and Large Spills:** There are spills or leaks of vehicle or equipment fluids that are either greater than 5 gallons in volume or 2 square feet in size.
- **Inlet Protection, No Basin:** There is no or inadequate inlet protection in place for projects where the inlets do not drain to a sediment basin.
- **Construction Entrance with Tracking:** Vehicle and/or equipment tracking is occurring onto non-project roads because of needed maintenance or improper installation of a construction entrance.
- **Vehicle/Equipment Tracking outside Project:** Vehicle and/or equipment tracking is occurring outside of the project area.
- **Portable Toilet Installation:** A portable toilet has been installed near stormwater infrastructure, including ditches, or has tipped over in the past because it is not staked properly.
- **Repeat Non-critical Issue:** A non-critical issue has been present for three regularly scheduled inspections.

#### Non-critical:

- **Records:** Records, including inspections and site maps, are not available or are not updated.
- **BMP Maintenance:** BMP(s) is in need of maintenance but is not causing a non-allowable discharge. BMPs included, but are not limited to, concrete washout containers, trash receptacles, and erosion and/or sediment controls.
- **Vehicle/Equipment Tracking inside Project:** Vehicle and/or equipment tracking is occurring inside the project area. This includes tracking onto City-owned streets if infrastructure drains to a sediment basin or is protected.
- **Solid Waste Management:** Trash is not being contained in a covered, leak-proof container but is not leaving the site or project area.
- **Stabilization:** Interim and/or final stabilization is not in place but other controls are adequately preventing non-allowable discharges of sediment.
- **Small Spills:** Spills and/or leaks are present but are not greater than 5 gallons in volume or larger than 2 square feet in size.
- **Portable Toilet Installation:** Portable toilets have not been staked but are not near stormwater infrastructure nor have tipped over in the past.
- **Other:** Another type of concern is present but is not causing a non-allowable discharge.

**Figure 6: Compliance Assistance Visit Report**



City of Norman  
Stormwater Division



## CONSTRUCTION SITE INSPECTION REPORT

Site Name/Address/Responsible Party:

Date/Time: [Click here to enter a date.](#)

Current Activity: Inactive

Last Rain Date: [Click here to enter a date.](#)

Current Weather: Select Weather

Quantity: Select a Quantity

Last Inspection Date: [Click here to enter a date.](#)

Deficiency	Critical	Non-Critical	N/A	Comments about the overall effectiveness of the erosion and sediment control measures. <b>Note:</b> For each item checked, refer to the follow-up information on page 2.
No Earth Change Permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Non-allowable Discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Erosion/Sediment Control Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Buffer Implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Materials Washout	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Medium and Large Spills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inlet Protection, No Basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Construction Entrance with Tracking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vehicle/Equipment Tracking outside Project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Portable Toilet Installation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Repeat Non-Critical Issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- ☐ Site IS in compliance with current permit regulations.
- ☐ Site IS NOT in compliance with current permit regulations. Noted deficiencies must be corrected within 14 calendar days, unless otherwise noted, to avoid further action.
- ☐ Notice of Violation issued.

### Maintenance/Corrective Action Required

BMP & Location	Representative Photo	Action Required
	N/A	

#### Site Notes:

Inspector's Name:

Date: February 15, 2019

#### Deficiency Description:

##### Critical:

- **No Earth Change Permit:** There is no Earth Change Permit on file with the city of Norman.
- **Non-allowable Discharge:** There is a discharge from the site of one or more of the following: sediment, materials washout, dust, solid waste, or other pollutants.
- **Erosion/Sediment Control Installation:** One or more erosion and/or sediment controls has/have been installed improperly. These controls include, but are not limited to, silt fence, compost sock, straw wattle, triangular silt dike, rock check dams, mulch (including hydromulch), sediment basins, etc.
- **Buffer Implementation:** The appropriately sized buffer or equivalent controls has/have not been implemented near adjacent waterways.
- **Materials Washout:** There is washout on the ground of certain materials including, but not limited to, concrete, paint, stucco, drywall mud, and/or other pollutants.
- **Medium and Large Spills:** There are spills or leaks of vehicle or equipment fluids that are either greater than 5 gallons in volume or 2 square feet in size.
- **Inlet Protection, No Basin:** There is no or inadequate inlet protection in place for projects where the inlets do not drain to a sediment basin.
- **Construction Entrance with Tracking:** Vehicle and/or equipment tracking is occurring onto non-project roads because of needed maintenance or improper installation of a construction entrance.
- **Vehicle/Equipment Tracking outside Project:** Vehicle and/or equipment tracking is occurring outside of the project area.
- **Portable Toilet Installation:** A portable toilet has been installed near stormwater infrastructure, including ditches, or has tipped over in the past because it is not staked properly.
- **Repeat Non-critical Issue:** A non-critical issue has been present for three regularly scheduled inspections.

Figure 7: Construction Site Inspection Report



## **2.5. Post-Construction Stormwater Runoff Control**

The City of Norman owns and operates an MS4 and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to implement and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one (1) acre that are part of a larger common plan of development or sale, that discharge into the small MS4. The program must attempt to maintain pre-development runoff conditions and ensure that controls are in place that would prevent or minimize water quality impacts.

### ***2.5.1. Storm Water Master Plan***

On June 28, 2011, the City adopted Resolution No. R-1011-120, which adopted the Storm Water Master Plan Final Report (SWMP). The goal of the SWMP was to understand how stormwater impacts the City of Norman and develop a plan to manage stormwater as a resource. The SWMP made specific recommendations regarding Phase II MS4 requirements, capital improvement projects, water quality enhancements, drainage easements, and financing options as action items. The Stormwater Division uses this document as a planning document.

### ***2.5.2. Wichita/Sedgwick County LID Manual***

As part of the post-construction stormwater runoff control program, and partially instigated by water quality impairments in the Lake Thunderbird watershed, the City adopted Ordinance No. O-1011-52 on June 28, 2011. Chapter 19-411.F encourages utilization of low impact development (LID) strategies for all developments and establishes the Wichita/Sedgwick County Stormwater Manual as a guidance document for any LID BMPs implemented.

### ***2.5.3. Water Quality Protection Zones***

As part of the post-construction stormwater runoff control program, and partially instigated by water quality impairments in the Lake Thunderbird watershed, the City adopted Ordinance No. O-1011-52 on June 28, 2011, which amended Chapter 19 of the Code of the City of Norman and requires natural vegetative buffers or a combination of buffers and other BMPs be maintained to protect water quality during and after construction along streams in the Lake Thunderbird watershed. The SWMP delineated Stream Planning Corridors, which may be used when establishing the width of water quality protection zones. Chapter 19-411 of the City Code establishes the WQPZ design standards. No clearing, grading, or construction that disturbs vegetation on any portion of the WQPZ is allowed except as required for initial construction.

#### ***2.5.3.1. Procedure***

Chapter 19-514.C. of the City Code requires that WQPZ buffers be inspected annually and following severe storms for evidence of sediment deposition, erosion, or concentrated flow channels and corrective actions taken to ensure the integrity and functions of the WQPZ. The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting annual WQPZ inspections:

1. The Stormwater Compliance Inspectors, the Stormwater Program Specialist, or another designated staff member (Inspector) is responsible for performing WQPZ inspections. A WQPZ inventory will be created and list a feature identification number, name of owner, address of owner if available, and location.
2. The inspection should look for erosion, bare ground, signs of vegetation disturbance, sediment and debris accumulation, and any evidence of unallowable non-stormwater discharges. The condition of the infrastructure and any recommended maintenance is noted on an inspection form.
3. If the feature is privately owned, a copy of the inspection report will be mailed to the owner with a request to conduct any required maintenance prior to the next annual inspection. If maintenance is not conducted, the City will pursue abatement as specified above.
4. If the feature is publicly owned, a work order will be created and maintenance activities scheduled.

#### ***2.5.4. Manufactured Fertilizer Ordinance***

As part of the post-construction stormwater runoff control program, and partially instigated by water quality impairments in the Lake Thunderbird watershed, the City adopted Ordinance No. O-1213-34 on February 26, 2013, which requires that commercial applicators of manufactured fertilizer who apply fertilizer within the City limits be registered with the City.

#### ***2.5.4.1. Procedure***

The Public Works Department, Stormwater Division, is responsible for following the below procedure when registering commercial applicators of manufactured fertilizers:

1. In the first quarter of every calendar year, the Stormwater Program Specialist (Specialist) will update the letter and application packet to be sent to commercial applicators. Additionally, the Specialist will update the list of applicators by comparing the previous year's list to the Oklahoma Department of Agriculture, Food and Forestry (ODAFF) Pesticide Applicators List found



- on ODAFF's website (<https://www.ag.ok.gov/cps/applist.pdf>). If other applicators are discovered throughout the year, they will be added to the list.
2. The Specialist will provide the updated packet to the Stormwater Program Manager (Manager) for review and signature. The Manager will return the packet to the Specialist for mailing preparations.
  3. The Specialist will send the packet and mailing list to Print Services to be mailed.
  4. If packets are returned, the Specialist will investigate the reason for return and take appropriate action whether that be address correction, entry removal from the list or something else.
  5. When a completed registration is submitted, the Specialist will log the applicator into the registration spreadsheet, noting the date of submittal and method of payment, if appropriate. A registration number is assigned to each applicant, which is noted by a two digit number, denoting the last two numbers of the calendar year for which the applicant is registering, followed by a digit noting the order of submission. For instance, if the previous registrant (in 2018) had registration number 18-018, the new registrant's number would be 18-019. The registration number and receipt date will be noted on the application. The application will then be filed.
  6. If the registrant applies phosphorus-containing fertilizer within the City limits and is therefore subject to the \$25 registration fee, the Specialist will make a copy of the check and registration form and will deliver the original check and copy of the form to the Revenue Window in Building C. S/he will file the copy of the check with the packet after following Step 5 of the procedure.

## **2.6. Municipal Good Housekeeping**

The City of Norman owns and operates an MS4 and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to implement and enforce the operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from MS4 operations.

### ***2.6.1. Employee Training***

The City of Norman is required to provide stormwater training to 75% of targeted employees annually. Targeted employees include field staff or other personnel whose jobs may create stormwater pollution. Employees who manage municipal construction projects will also receive stormwater-related training relevant to construction site stormwater management. All city employees should, at a minimum, receive general

information on the purpose and goals of the Stormwater Division and how to identify illicit discharges.

The following Departments/Divisions have been identified for targeted stormwater training on specific job-related topics:

- Code Compliance – illicit discharges, spill response, litter control, fertilizer and grass clippings
- Environmental Services – illicit discharges, spill response
- Police Department Field Staff – illicit discharges, spill response
- Animal Welfare—maintenance/washing, spill response
- Compost Facility—maintenance/washing, spill response
- Development Services Division—construction
- Engineering Division (including Construction Inspectors)—construction
- Fire Department—maintenance/washing, spill response
- Fleet Division—maintenance/washing, spill response
- Line Maintenance—maintenance/washing, spill response, construction
- Parks and Rec—maintenance/washing, fertilizer and grass clippings
- Sanitation Division—maintenance/washing, spill response, litter control
- Stormwater Division—maintenance/washing, spill response, grass clippings, construction
- Street Division—maintenance/washing, spill response, grass clippings, construction
- Traffic Control Division—construction, spill response
- Transfer Station—maintenance/washing, spill response, litter control
- Water Reclamation—maintenance/washing, spill response, construction
- Water Treatment—maintenance/washing, spill response, construction

The Public Works Department, Stormwater Division, is responsible for following the below procedure when training city personnel:

1. Determine the message to be conveyed to the selected audience. These can be general stormwater messages, or targeted messages that address one type of pollutant (e.g., sediment), or one type of stakeholder (e.g., Capital Project Engineers). When messages are selected, use or modification of materials used for education of the general public should be considered. Materials may also include presentations by Stormwater Division staff, videos purchased by the Stormwater Division, and facilitated group discussion. Bilingual materials are also available for distribution.
2. Obtain permission to conduct the training event(s) from the Public Work Director through the Stormwater Program Manager.
3. A memo following the SW Routing Memo Template to the Public Works Director is to be drafted explaining the purpose, goal of, and describing the material, as well as background information. The memo is routed accordingly.

4. After approval is obtained, the material may be distributed.
5. Conduct training and document attendance through use of a sign-in sheet.
6. Training certificates and surveys may be distributed at each event as appropriate.

### ***2.6.2. Good Housekeeping Plans***

In order to address potential sources of stormwater pollution at municipal facilities, the Stormwater Division is responsible for creating Good Housekeeping Plans (GHPs) or assisting with the development of Stormwater Pollution Prevention Plans (SWP3s) for the following facilities:

- Animal Shelter, 3428 Jenkins Ave
- Parks Department, Maintenance Facility, 2501 S. Jenkins Ave
- Public Works Department, Fleet Division, 1301 DaVinci
- Public Works Department, Lindsey Maintenance Yard, 668 E. Lindsey St
- Public Works Department, Traffic Control Division, 1311 DaVinci
- Utilities Department Line Maintenance Division, 1307 DaVinci
- Utilities Department, Sanitation Compost Facility, 398 Bratcher-Miner Rd
- Utilities Department, Sanitation Maintenance Facility, 1317 DaVinci
- Utilities Department, Sanitation Transfer Facility, 3901 Chautauqua Ave
- Utilities Department, Water Reclamation Facility, 3500 S. Jenkins
  - Qualifies for No Exposure Waiver under ODEQ Industrial Stormwater General Permit, OKR05
- Utilities Department, Water Treatment Facility, 3000 E. Robinson St

### ***2.6.3. Municipal Facility Inspection Procedure***

Another requirement of the City's Phase II MS4 permit is annual inspections of municipal facilities. At least once annually, a routine inspection will occur during a rain event so that discharge from the facility can be observed. An annual comprehensive inspection will also occur so that a holistic view of the facility and its control measures may be had. The following facilities would be subject to annual inspections:

- Animal Shelter, 3428 Jenkins Ave
- Fire Station No. 1, 411 E. Main St
- Fire Station No. 2, 2211 W. Boyd St
- Fire Station No. 3, 500 E. Constitution St
- Fire Station No. 4, 4145 W. Robinson St
- Fire Station No. 5, 1000 168<sup>th</sup> Ave NE
- Fire Station No. 6, 7405 Alameda Dr
- Fire Station No. 7, 2216 Goddard Ave
- Fire Station No. 8, 3901 36<sup>th</sup> Ave NW
- Fire Station No. 9, 3001 Alameda St

- Parks Department, Maintenance Facility, 2501 S. Jenkins Ave
- Parks Department, Westwood Park Golf Course, 2400 Westport Dr
- Parks Department, Westwood Family Aquatic Center, 2400 Westport Dr
- Public Works Department, Fleet Division, 1301 DaVinci
- Public Works Department, Lindsey Maintenance Yard, 668 E. Lindsey St
- Public Works Department, Traffic Control Division, 1311 DaVinci
- Utilities Department Line Maintenance Division, 1307 DaVinci
- Utilities Department, Sanitation Compost Facility, 398 Bratcher-Miner Rd
- Utilities Department, Sanitation Maintenance Facility, 1317 DaVinci
- Utilities Department, Sanitation Transfer Facility, 3901 Chautauqua Ave
- Utilities Department, Water Reclamation Facility, 3500 S. Jenkins
- Utilities Department, Water Treatment Facility, 3000 E. Robinson St

The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting annual municipal facility inspections:

1. The Stormwater Compliance Inspectors, the Stormwater Program Specialist, or another designated staff member (Inspector) is responsible for performing annual municipal facility inspections of the sites listed above.
2. The inspection should look for proper installation of BMPs, offsite discharge of stormwater pollutants, leaking or uncovered drums or barrels, improper storage of chemicals, leaking vehicles and any evidence of leaks, spills, or other unallowable non-stormwater discharges. The condition of the BMPs and any recommended maintenance is noted on an inspection form.
3. The results of the inspection will be discussed with the site representative, and a copy of the inspection report will be provided with a request to conduct any required maintenance prior to the next annual inspection. Additional training and guidance on appropriate BMPs for each facility will be provided as needed.

## **SECTION 3: FLOODPLAIN POLICIES**

### **3.1. Introduction**

The City of Norman has established floodplain regulations in Section 429.1 – FH, Flood Hazard District in Chapter 22 of the City’s Code of Ordinances, which regulates development under provisions of the National Flood Insurance Program (NFIP). Its purpose is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. Development is defined as any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations or storage of equipment or materials. It also does not include agricultural practices such as planting, gardening, plowing, and/or similar practices that do not involve filling, grading, and/or excavating.

The Public Works Director, or his/her designee, serves as the Floodplain Administrator for the City of Norman and is responsible for implementing the floodplain program. Fundamental components of the floodplain program include the following:

- Implementing and updating regulations governing the floodplain as necessary;
- Reviewing floodplain permit applications;
- Conducting inspections;
- Taking enforcement actions when necessary;
- Interacting in variance and appeal processes;
- Keeping records of all floodplain development;
- Collecting fees;
- Investigating complaints of/for possible violations;
- Maintaining and updating administrative forms;
- Disseminating floodplain management information;
- Post-flood operating procedures; and
- Acting as liaison with the Federal Emergency Management Agency (FEMA) and the Oklahoma State Floodplain Coordinator.

### **3.2. Floodplain Permitting Process**

The City of Norman has established a floodplain permitting system that includes regulating all floodplain development in the special flood hazard areas. The floodplain permit is required for any building, mining, dredging, filling, grading, paving, excavation, drilling operations or storage of equipment or materials that would affect drainage patterns or the flood carrying capacity of the watercourse. In reviewing an application, the key to remember is that the proposed activity itself must be safe from flooding and it must not increase the flood hazard to other areas.

### ***3.2.1. Application Process***

The Floodplain Permit Application package to be submitted by the applicant must include the following required information, as required:

1. Floodplain Permit Application (signed by the applicant, builder, and engineer);
2. Plans drawn to scale;
3. Typical valley cross-section showing channel of stream, elevation of land areas adjoining each side of the channel;
4. Subdivision or other development plans;
5. Profile showing the slope of the bottom of the channel or flow line of the stream;
6. Elevation of the lowest floor of all new and substantially improved structures;
7. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;
8. Cost analysis and estimates for substantial improvement/substantial damages, if applicable;
9. No rise in the Base Flood Elevation (BFE) certification signed by a Registered Professional Engineer in the State of Oklahoma;
10. Radius map and list of names and addresses of all record property owners within 300 feet of the proposed activity location;
11. Any additional applicable permits; and
12. Application fee of \$100.00.

### ***3.2.2. Application Review Process***

The Public Works Department, Stormwater Division, is responsible for following the below procedure when reviewing floodplain permit applications:

1. Examine submitted plans in detail to ensure that the following items are included as appropriate:
  - a. Location of property lines and proposed development;
  - b. Streets;
  - c. Watercourses;
  - d. Existing and proposed structures;
  - e. Topographic information;
  - f. Floodway and floodplain boundaries; and
  - g. References to any special regulations due to location of property.
2. Assess the elevation data provided in the application:
  - a. The flood-related delineations must be consistent with the FIS data.

- b. When elevation data is not provided in the Flood Insurance Study (FIS) for unnumbered A zones, the applicant's engineer must provide elevations for activities in unnumbered A zones.
  - c. All elevation information should be accurate, as the application package will serve as the record substantiating the issuance of the permit.
  - d. Lowest floor elevations must be documented.
- 3. Review plans for the following:
  - a. Type of structure and proposed use;
  - b. The placement and elevation of the lowest floor;
  - c. The type of foundation system;
  - d. The existence of an enclosure below the lowest floor, if any;
  - e. The elevation of the lowest floor in relation to the base flood elevation;
  - f. The kind and potential use of the structure;
  - g. The height to which a nonresidential structure is to be floodproofed;
  - h. Anchoring systems to stabilize the structure during flooding;
  - i. The type and dimensions of any flood vents, if required;
  - j. Proposed elevations of lowest adjacent grade.
- 4. Verify that all necessary technical documents are included and properly certified.
  - a. No Rise Certificate: If any of part of the proposed project is to be located in a designated floodway, the applicant must submit engineering documentation demonstrating that the proposed encroachment will not result in any increase in base flood heights. If any of part of the proposed project is to be located in a designated floodplain, the applicant must submit engineering documentation demonstrating that the proposed encroachment would not result in an increase in base flood elevation of more than 0.05 feet. There is no form or special format for a No Rise certificate. It may be a written statement, supported by hydraulic computations, signed by a registered professional engineer, who certifies that the development will result in no increase in flood heights.
- 5. Insure that all additional permits have been obtained. The application should include proof and documentation stating that all required Federal and State permits have been applied for and that the project will not proceed until those permits are issued. Additional permits that may be required include:
  - a. A US Army Corps of Engineers 404 permit for any placement of material (fill, piers, etc.) in a stream channel or for the filling or draining of a wetland.
- 6. When review of a floodplain permit application is complete, it may be scheduled on the next Floodplain Permit Committee agenda. Staff will notify nearby residents, prepare a staff report and presentation, and assemble all necessary

documents in a Floodplain Permit Committee packet for review by committee members prior to the scheduled meeting.

Note: When a structure is required to be elevated, an approved FEMA Elevation Certificate will be required prior to the issuance of a Certificate of Occupancy.

### **3.2.3. Recordkeeping**

Flood-related information that shall be retained either electronically and/or in Floodplain Permit files includes:

1. Floodplain Development Permits/Applications (includes all elevation certificates);
2. Recorded As-Built elevations and drawings;
3. Findings of fact relative to variances and appeals;
4. NFIP Biennial Report forms;
5. Other NFIP correspondence, including CRS documentation;
6. Floodplain management data.

### **3.3. Floodplain Inspection and Enforcement Procedure**

The City of Norman has established floodplain regulations in Section 429.1 – FH, Flood Hazard District in Chapter 22 of the City’s Code of Ordinances, which regulates development under provisions of the NFIP. Citizen complaints and routine inspections may find violations of the Floodplain Ordinance. The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting floodplain inspections and pursuing enforcement when violations are noted:

1. The Stormwater Compliance Inspectors, the Stormwater Program Specialist, or another designated staff member (Inspector) is responsible for performing floodplain inspections.
2. The inspection should look for signs of vegetation disturbance or development, evidence of any fill placed, and any storage of equipment or materials in the floodplain that would affect drainage patterns or the flood carrying capacity of the watercourse. The condition of the site should be noted on the inspection form.
3. If the inspection indicates a violation of the Floodplain Ordinance, staff will use the following enforcement sequence when necessary to address the floodplain violation:
  - a. *Verbal Notification.* In most cases, a verbal notification to the responsible party is sufficient for the responsible party and/or land owner to take action and correct/eliminate the discharge. If a violation is egregious and willful, or the responsible party is unresponsive, other remedies are available.
  - b. *Issuance of a Notice of Violation (NOV).* If a violation of the ordinance is egregious and/or the responsible party is unresponsive, a NOV should be issued. The NOV is a formal, legal notice in the form of a letter that a violation is occurring which requires attention and action. A course of action and time schedule to correct the violation will be included in the letter as well



as possible consequences of non-compliance. A typical deadline for correction of illicit discharge violations is 5 days. The NOV is sent via certified mail, and the delivery is tracked.

- c. *Issuance of an Order to Cease and Desist.* In certain cases, especially if the discharge is determined to cause an unacceptable health or environmental risk, a cease and desist order may be issued which requires the responsible party to cease and desist all violations, to immediately come into compliance with the ordinance, and to take any necessary remedial action.
- d. *Abatement.* In the case of a violation which is determined to cause an unacceptable and immediate health or environmental risk, steps to abate the violation can be taken by the City. Additionally, costs for such abatement can be charged back to the responsible party.
- e. *Administrative Fines.* Any person or entity found to be in violation of the ordinance may be fined an amount of not less than fifty dollars (\$50.00) nor more than two hundred dollars (\$200.00) for each violation or failure to comply.
  - i. Fines must be paid within fifteen (15) days of receipt of notification.
  - ii. Each day that a violation exists constitutes a separate and distinct offense.
  - iii. Lien against the responsible party's property can be levied for unpaid fines.
- f. *Water Service Severance.* Responsible parties who violate the ordinance can be subject to severance of water service from the City. Service will recommence at the responsible party's expense when compliance is achieved or written arrangements to correct the violation(s) are submitted to, and approved by, the City.
- g. *Suspension of Permit Issuance.* A responsible party of a violation(s) of the ordinance can be denied the issuance of any other City permits, approvals, or inspections until the violation(s) is corrected or written arrangements to correct the violation(s) are submitted to, and accepted by, the City.
- h. *Injunctive Relief.* If a violation or violations of the ordinance occurs, the District Court may be petitioned for a preliminary or permanent injunction to restrain or compel action from the responsible party.
- i. *Criminal Prosecution.* For violations of the ordinance, the responsible party can be liable to criminal prosecution by the City of Norman in Municipal Criminal Court for a maximum penalty of one thousand dollars (\$1000.00) per violation per day and/or imprisonment for a period of not more than thirty (30) days.
- j. *Remedies Nonexclusive.* The City can take any, all, or any combination of these actions against responsible parties of floodplain ordinance violations.

### **3.4. Community Rating System (CRS) Program Requirements**

Basic homeowner's insurance policies do not cover damage from floods. The City of Norman participates in the NFIP, which means that federally subsidized flood insurance is available to everyone in the City. The purchase of flood insurance is highly recommended. Some people have purchased flood insurance because it was required by the bank or mortgage company when they obtained a mortgage or home improvement loan. Flood insurance policies are available to cover the building's structure and its contents. Remember, there is a 30 day waiting period before the policy becomes effective, and it must be renewed every year.

Norman's floodplain ordinance standards are above FEMA's minimum requirements, which allows Norman to participate in FEMA's CRS program. Norman is a Class 6 Community, which results in a discount of flood insurance premiums for structures in the Special Flood Hazard Area.

### **3.5. Post-Flood Inspection Procedures**

The Public Works Department, Stormwater Division, is responsible for following the below procedure when conducting post-flood inspections to document flood-related property damage:

1. Coordinate with local emergency management, police, fire department, rescue squad and other community agencies or employees who may be involved in flood evacuation to identify specific areas which have flooded.
2. Immediately after a flood event, inspect the flood damaged areas and determine which structures have been damaged. On each flood damaged structure, post a notice which clearly indicates that a development/building permit is required prior to the initiation of any repair of the flood-damaged structure.
3. On an individual, structure-by-structure basis, the floodplain manager will determine when each structure was constructed and whether it was constructed in compliance with the current effective floodplain ordinance requirements. Each structure which is not compliant with the current effective floodplain ordinance requirements will be evaluated to determine whether it has been substantially damaged and compare the fair market value (including labor and materials) of the total repair or improvement against pre-improvement, fair market value of the structure. The tax assessed value of the structure (excluding land) may be used in place of the fair market value. If the structure has been substantially damaged by the flood, it must be brought into full compliance with the current effective floodplain ordinance requirements, including elevation, anchoring, and other flood protection measures.
4. Allow the property owner, at his/her own expense, to provide an appraisal of the property which represents the current, fair market value of the structure. In the case of a building which has incurred substantial damage, the appraisal should reflect the value immediately prior to the damage.

5. The value of the proposed improvement must also represent the current, fair market value of the work to be performed, including labor and materials. If the structure has been damaged, the total value of the damage must be determined, regardless of whether the proposed owner plans to make complete repairs or only repair a portion of the damage.
6. After each flood, tornado, wind storm or other event, it is recommended that the City publish a notice in the local newspaper, website, and social media to remind property owners that permits are required to repair damage to structures in the Special Flood Hazard Area resulting from a flood, fire, tornado, winter storm or any other event. Property owners should be directed to the Public Works Department for assistance and information concerning a repair building permit.

## **SECTION 4: STORMWATER UTILITY POLICIES**

### **4.1. Administrative Appeals Process**

#### ***4.1.1. Legal Authority:***

Article V, Section 21-501 of Chapter 21 of the Code of Ordinances of the City of Norman establishes a stormwater utility and management program to promote public health, safety, and welfare by providing for studying, designing, operating, constructing, equipping, maintaining, acquiring an owning within the City a stormwater drainage system. Article V, Section 21-503(7) of Chapter 21 of the Code of Ordinances gives the City Manager the authority to hear administrative appeals related to the stormwater utility fee calculation.

#### ***4.1.2. Process:***

Appeals may be filed with the Stormwater Division of the Public Works Department using the SWU Administrative Appeals Form (Form) by any customer who believes that the assessed SWU fee was incorrectly calculated. Forms may be received in person, or by email or mail. Maps, photos, plats, and/or other documentation should be included with the Form.

Once a complete Form is received, staff will review it and any appropriate supporting documentation to determine if the issue can be resolved on the basis that incorrect data was used to make the decision or that an error was made in interpreting the available data. Supporting documentation may include, but is not limited to, a survey prepared by a professional land surveyor or professional engineer showing the parcel area of the property, a site map, current photos of areas to be reviewed and others. A field inspection may be necessary to verify information submitted during the appeals process. The customer will be contacted to schedule such a visit.

It is anticipated that most appeals will be resolved within 60 to 90 business days.

If it is determined that an error has been made based on incorrect data or in interpreting the data and requirements, corrections will be made to the customer's account and the GIS database as appropriate. Adjustments to the customer's utility bill will be made using the Finance Department's existing procedures.

If it is determined that an error has not been made, no corrections or adjustments will be made.

All costs associated with filing an appeal are the responsibility of the person filing the appeal. The City of Norman will not compensate persons for any expenses associated with filing appeals, regardless of the outcome of the appeal.

#### ***4.1.3. Anticipated Types of Appeals:***

##### ***1. Inaccurate Parcel/First Floor Area Calculation***

- Due to image quality, lack of data, and spectral-classification limitations, errors may occur in the parcel area/first floor area calculation. Below is a list of possible errors that may necessitate an appeal:

1. Errors in parcel area calculations due to issues with boundary delineation of the parcel. This may occur when shadows or image quality lead to a misidentification of the edge of parcel.
  2. Errors in the parcel area/first floor area data in the Cleveland County Assessor's database.
- These issues may be resolved by a field inspection or documentation provided by the applicant.

2. *Update of Parcel/First Floor Area Measurements*

- A customer may request to have the parcel area/first floor area for a property reviewed for accuracy. The area will be visually verified or manually corrected using the City's most current imagery and/or data provided by the applicant. For residential properties, the applicant must supply adequate documentation indicating the proper first floor area of the property in order to be reclassified.

3. *Incorrect Responsible Party:*

- *Responsible party* refers to the person or entity responsible for paying the monthly stormwater utility rate and shall presumptively be the same person or entity responsible for water, sewer, or trash service as applicable.
- A person or entity other than the presumptive responsible party may be assessed and billed the stormwater utility fee upon providing proper documentation to the City's billing department.

4. *Incorrect Property Classification:*

- A customer may request to have the property classification reviewed if he or she believes that the property was incorrectly classified. The customer must supply adequate documentation indicating how the property should be reclassified in order for this to occur.

5. *Failure to Appropriately Apply Agricultural Credit:*

- The Agricultural Credit applies to residential parcels that are located in General Agricultural (A-1) or Rural Agriculture (A-2) Zoning Districts. The customer may request to have the application of the Agricultural Credit reviewed if he or she believes that it was applied incorrectly or was not applied. The customer must supply adequate documentation to support the application of the Agricultural Credit.



## CITY OF NORMAN PUBLIC WORKS DEPARTMENT

### STORMWATER UTILITY ADMINISTRATIVE APPEALS FORM



Please allow 60-90 business days for review of your request.

#### **Property Owner Information:**

Name:	Mailing Address:	
Phone No.:	Email:	City, State & Zip Code:

#### **Property Information:**

Parcel No.:	Property Address:
Utility Account No.:	City, State & Zip Code:

#### **Administrative Appeal Requested:**

- |   |   |
|---|---|
| <input type="checkbox"/> Inaccurate parcel/first floor area calculation                 | <input type="checkbox"/> Failure to apply Agricultural Credit     |
| <input type="checkbox"/> Review of parcel/first floor area measurements/tier assignment | <input type="checkbox"/> Other (describe nature of request below) |
| <input type="checkbox"/> Incorrect responsible party (for all or part of a parcel)      | _____   |
| <input type="checkbox"/> Incorrect property classification                              | _____   |

Additional Information:

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#### **Appeal Documentation:**

- ☐ Location map showing property address and areas to be reviewed
- ☐ Current photos of areas to be reviewed
- ☐ Plat/Survey showing property lines and ownership
- ☐ Measurements/Sketch of first floor area
- ☐ Other: \_\_\_\_\_

I certify the information contained in the appeal is, to the best of my knowledge, correct and represents a complete and accurate statement. By signing below, I agree to allow City of Norman staff or inspectors on site to review and verify the above information, if needed.

\_\_\_\_\_  
Applicant's Signature

\_\_\_\_\_  
Date

#### **Please return completed Form to:**

Public Works - Stormwater Division, City of Norman, P.O. Box 370, Norman, OK 73070

Email: [pwstormwater@normanok.gov](mailto:pwstormwater@normanok.gov)

## **4.2. Neighborhood Assistance Program**

### ***4.2.1. Introduction***

Many neighborhoods within the City of Norman own and are responsible for maintaining stormwater infrastructure. Stormwater infrastructure can include, but is not limited to, such things as detention ponds, channels, and flumes. Often, these neighborhoods conduct routine mowing of these structures but may lack the expertise to identify and fund more extensive maintenance activities. Through the City of Norman's Neighborhood Assistance Program, the City's Stormwater Division will inspect these structures annually and provide the owner with an inspection report identifying any issues that need to be addressed. The owner, whether a neighborhood, resident, or Homeowners' Association (HOAs), will then be eligible to apply for a 50/50 cost share program to assist in the completion of any needed repairs on that structure.

### ***4.2.2. Project Prioritization***

The first step in this process will need to involve a complete inventory and assessment of the condition of the City's stormwater infrastructure. The condition assessment, in conjunction with the results of annual inspections, will serve as the first step for project prioritization. When applications for assistance are received, City staff will review the application for completion and rank each project in order of priority. The number of projects funded each year will depend on the number of applications received, the cost of each project, and the amount of funding available. The projects with the highest priority ranking will be selected as funding allows for the year. City staff will then make a recommendation of proposed projects to fund to the Stormwater Citizen Oversight Committee for approval/concurrence. If all of the budgeted program funds are not awarded during the fiscal year, any remaining funds will remain in the Neighborhood Assistance Program fund for future projects.

### ***4.2.3. Ranking Criteria***

Applications will be ranked using the following criteria:

1. Project rank based on condition assessment
2. Potential to adversely affect life and property
3. Scope of project – priority will be given to projects that involve regional detention structures
4. Incorporation of green infrastructure, where applicable
5. Ability of Applicant(s) to provide necessary cost share

### ***4.2.4. Application Process***

To begin participation in the Neighborhood Assistance Program, eligible entities must submit all necessary documents by April 1<sup>st</sup> each year. Completed applications can be

sent to the Stormwater Division via email to [pwstormwater@normanok.gov](mailto:pwstormwater@normanok.gov) or by mail attention Stormwater Division, P.O. Box 370, Norman, OK 73070.

1. Necessary documents to be submitted include:
  - a. Application form
  - b. Participation agreement between the City and the applicant.
  - c. Approval by a simple majority of affected neighbors and/or HOA members.
  - d. Dedication of any necessary easements.
  - e. Proof of ability to provide Applicant's portion of the cost match
    - i. Special assessment districts may be used to collect Applicant's portion of cost match through the utility billing process. If this will be the means by which the Applicant's cost match will be provided, then the application must include the definition of the boundaries of the district and a petition to City Council signed by a simple majority of those to be affected by the special assessment district.
  - f. Maintenance agreement

Applications will be reviewed by City staff within 90 days of due date. Projects selected for funding will be sent a letter informing them of the decision.

#### ***4.2.5. Additional Information Checklist***

Participation Agreement	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Documentation of Approval by Affected Neighbors and/or HOA Members	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Dedication of Easements	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Financial Assurances	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Special Assessment District Boundary Definition and Petition	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A





# CITY OF NORMAN PUBLIC WORKS DEPARTMENT

## STORMWATER NEIGHBORHOOD ASSISTANCE PROGRAM

### APPLICATION FORM



Please allow 90 business days for review of your request.

#### **Applicant Information:**

Name:	Mailing Address:	
Phone No.:	Email:	City, State & Zip Code:
Name:	Mailing Address:	
Phone No.:	Email:	City, State & Zip Code:

Please include a list of affected property owners as an attachment.

#### **Project Information:**

<b>Project Location:</b> Please provide a brief description of the project location.		
Is the project located on your property?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is the project located on common ground?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Is a state or federal agency involved or asking for this project to be completed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Does the project involve a regional detention structure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>Does on-site erosion or other structural deficiencies pose an immediate threat to any of the following?</b>		
House	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Garage	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Deck	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Pool	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Utilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Pedestrians	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other Neighborhoods	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Public Use Areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Public Infrastructure	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Have engineering services been obtained?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Will the City of Norman collect fees from the affected property owners to pay for cost match?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Will the completion of the project result in transfer of ownership of the property or additional easements?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Project Description:	Please provide a brief description of the project.	
Type of Infrastructure Involved:		
Estimated Project Cost, if known:		
Green Infrastructure Included:	<input type="checkbox"/> Yes	<input type="checkbox"/> No

### **Cost Match Information:**

Please include information on funding sources for Applicant's cost share. Provide commitment letters if available.

Funding Source	Amount

I (We), the undersigned owners of the property, understand and agree to the terms and conditions of the Neighborhood Assistance Program for the City of Norman, Oklahoma.

_____ Signature	_____ Name (please print)
_____ Signature	_____ Name (please print)
_____ Signature	_____ Name (please print)
_____ Signature	_____ Name (please print)

### **Please return completed Form and additional information to:**

Public Works - Stormwater Division, City of Norman, P.O. Box 370, Norman, OK 73070  
Email: [pwstormwater@normanok.gov](mailto:pwstormwater@normanok.gov)

## **SECTION 5: EMERGENCY PREPAREDNESS AND RESPONSE**

The City of Norman has developed an Emergency Operations Plan to provide a comprehensive (multi-use) emergency management program and defines who does what, when, where, and how, in order to mitigate, prepare for, respond to, and recover from the effects of natural disasters, technological accidents, nuclear incidents, and other major incidents/hazards. The City of Norman has also adopted the Cleveland County Hazard Mitigation Plan, which provides for community mutual aid agreements and coordinated procedures for transportation and evacuation of people, supplies, and equipment and is included as part of the Emergency Operations Plan. The procedures referenced in this Section of the Stormwater Policy Manual reference only those processes that are specific to the Public Works Stormwater Division.

### **5.1. Spill Response**

The City of Norman owns and operates a Municipal Separate Storm Sewer System (MS4) and is permitted through the Oklahoma Department of Environmental Quality under the General Permit, OKR04, Phase II Small Municipal Separate Storm Sewer System Discharges within the State of Oklahoma. This permit requires MS4s to develop, implement and enforce a program to detect and eliminate illicit discharges to the MS4. Spill response is part of that program.

#### ***5.1.1. Procedure***

The Public Works Department, Stormwater Division, is responsible for following the below procedure when responding to a spill:

1. When a spill is reported or detected, the initial action should be to ensure personal and public safety and prevent the pollutant from entering nearby drainage ditches, storm drain inlets, or waterways.
2. If applicable and possible to do so safely, the release should be stopped by shutting appropriate valves, securing pumps, and plugging or covering gashes or punctures.
3. The person observing the spill should notify the Stormwater Program Specialist and Stormwater Program Manager.
4. Sorbent materials, dirt, sand, spill pads, or other relatively impervious material should be used to dam up the spill and contain it. If sorbent material is used to clean up the spill, the material should be lightly scrubbed into the spill and then swept up for disposal. A traditional broom and dust pan can be used for small spills, and the Street Sweeping and Litter Crew can be called for medium-sized spills. For this procedure, small spills will be considered 5 gallons or less, medium spills will be considered 5 to 50 gallons, and large spills will be considered more than 50 gallons. Photographs should be taken to document the extent and characteristics of the spill and the clean-up efforts.

5. The Stormwater Program Specialist will respond to medium and larger spills to ensure all reporting requirements and clean up measures are followed. Under consultation with the Stormwater Program Manager, the Stormwater Program Specialist will determine if the spill is of sufficient size or character to require a response by a hazardous materials remediation company. If medium to large spills are discovered after normal working hours, the Norman Fire Department's Hazmat Team should be notified.
6. If a responsible party can be located, a letter describing the incident and response and direction for avoiding spills and leaks will be sent to the responsible party.
7. The Stormwater Compliance Inspector or the Stormwater Program Specialist will complete the Spill Response Form including the photographs to document the incident and response.

### **5.2. Disaster Debris Management**

The Public Works Stormwater Division will assist the Streets Division whenever disaster debris management is required. Please refer to the Disaster Debris Management Plan for additional details.

### **5.3. Snow and Ice Control**

The Public Works Stormwater Division will assist the Streets Division whenever snow and ice control is required. Please refer to the Snow and Ice Control procedures for additional details.



City of Norman  
Stormwater Quality



SPILL RESPONSE REPORT

Site Name/Address:

Date/Time: [Click here to enter a date.](#)

Responding Personnel:

Current Weather:

Spill Quantity:

Checklist	Yes	No	N/A	Comments
Has the spilled material discharged to the MS4?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the spilled material reached an MS4 outfall?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the spill been contained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the spilled material been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the spilled material pose a health hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the spilled material pose an environmental hazard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the spill require notification to other entities (ODEQ, ODOT, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the spill been properly cleaned?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the responsible party been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has the responsible party been notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

☐ Attached Documents –

Location Map

# Spill Response Documentation

Photo	Action Description

Comments:

Inspector's Name:

Date: