CITY OF TEMPE, ARIZONA

STORMWATER MANAGEMENT PLAN

Prepared by the City of Tempe
Municipal Utilities Department,
Water Utilities Division,
Environmental Services Section
As prescribed by
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AZPDES Permit
No. AZS000005
Section 4.0

TABLE OF CONTENTS

SECTION PAGE

1.0 EXECUTIVE SUMMARY 1-1

2.0 LEGAL AUTHORITY 2-1

3.0 ARIZONA SURFACE WATER QUALITY STANDARDS 3-1
3.1 DISCHARGES FROM THE MS4 TO IMPAIRED WATERS 3-1

4.0 STORMWATER MANAGEMENT PLAN (SWMP) 4-1
4.1 PROGRAM IMPLEMENTATION 4-1
4.1.1 Enforcement 4-2
4.2 PUBLIC EDUCATION AND OUTREACH 4-2
4.2.1 Introduction 4-2
4.2.2 MS4 Permit Requirements 4-2
4.2.3 Public 4-3
4.2.4 Business Sector 4-3
4.2.5 Implementation 4-4
4.3 PUBLIC INVOLVEMENT AND PARTICIPATION 4-4
4.4 ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) 4-5
4.4.1 Allowable Non-Stormwater Discharges 4-5
4.4.2 MS4 Mapping 4-6
4.4.3 Municipal Employee Training 4-6
4.4.4 Spill Prevention and Response 4-6
4.4.5 Inspections and Screening 4-7
4.4.6 Investigation Timelines 4-9
4.4.7 Elimination 4-9
4.4.8 Compliance Activities and Enforcement 4-10
4.4.9 Recordkeeping 4-10
4.5 MUNICIPAL FACILITY POLLUTION PREVENTION AND GOOD HOUSEKEEPING PRACTICES 4-11
4.5.1 Municipal Employee Training 4-11
4.5.2 Inventory and Inspections 4-11
4.5.3 Good Housekeeping Measures 4-13
4.6 INDUSTRIAL AND COMMERCIAL FACILITIES 4-17
4.6.1 Municipal Employee Training 4-17
4.6.2 Inventory 4-17
4.6.3 AZPDES Non-Filers 4-18
4.6.4 Prioritization 4-18
4.6.5 Inspections 4-19
4.6.6 Compliance Activities and Enforcement 4-20
4.6.7 Recordkeeping 4-20
4.7 CONSTRUCTION SITES 4-20
4.7.1 Municipal Employee Training 4-20
4.7.2 Plan Review 4-20
4.7.3 Inventory 4-21
4.7.4 Construction Site Prioritization 4-21
4.7.5 Inspections 4-21
4.7.6 Stormwater Control Measures 4-22
4.7.7 Compliance Activities/Enforcement 4-23
4.8 POST-CONSTRUCTION 4-24
4.8.1 Municipal Employee Training 4-24
4.8.2 Post-Construction Controls 4-24
4.8.3 Compliance Activities/Enforcement 4-24

5.0 STORMWATER TRAINING PROGRAM 5-1
5.1 ILLICIT DISCHARGE DETECTION AND ELIMINATION/INDUSTRIAL AND COMMERCIAL FACILITIES (NON-MUNICIPALLY OWNED) 5-1
5.2 MUNICIPAL FACILITY TRAINING 5-1
5.3 CONSTRUCTION/POST-CONSTRUCTION TRAINING 5-2

LIST OF TABLES

Table 1: City Responsibilities 4-1
Table 2: General Public Education and Outreach Requirements 4-3
Table 3: Business Sector Education and Outreach Requirements 4-3
Table 4: Field Screening 4-8
Table 5: Industrial and Commercial Facility Ranking Criteria 4-18
Table 6: General Inspection Information 4-19
Table 7: Environmental Compliance Inspector Training 5-1
Table 8: Municipal Facility Training 5-2
Table 9: Construction / Post Construction Training 5-2

ATTACHMENTS (Provided Electronically Upon Request)

A Stormwater Ordinances
B IDDE Guidance Manual
C Municipal Facility Inventory
D Stormwater Best Management Practices Field Manual
E Integrated Pest Management
F Industrial and Commercial Inventory

ACRONYMS

ADEQ	Arizona Department of Environmental Quality
ADMS	Area Drainage Master Study
ARCA	Alternative Retention Criteria Area
AZPDES	Arizona Pollutant Discharge Elimination System
BMP	Best Management Practice/ Control Measures
CCTV	Closed Circuit Television
CFR	Code of Federal Regulations
CGP	Construction General Permit
CIP	Capital Improvement Project
CWA	Clean Water Act
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
ESS	Environmental Services Section
HPCC	Household Products Collection Center
HWMP	Hazardous Waste Management Plan
IDDE	Illicit Discharge Detection and Elimination
IPM	Integrated Pest Management
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
NEC	No Exposure Certification
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OAW	Outstanding Arizona Water
PPM	Parts per Million
POTW	Publicly Owned Treatment Works
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
SIC	Standard Industrial Classification
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWQS	Surface Water Quality Standards
TMDL	Total Maximum Daily Load

1.0 Executive Summary

The City of Tempe Stormwater Management Plan (SWMP) identifies the major programs, policies and procedures implemented by the city to minimize the impact of urban activities on the quality of stormwater runoff. Tempe is required to develop this plan as a municipality authorized to discharge stormwater as a Municipal Separate Storm Sewer System (MS4) under the Arizona Pollutant Discharge Elimination System (AZPDES) permit program administered by the Arizona Department of Environmental Quality (ADEQ). Tempe's Phase I MS4 Permit (Permit) was most recently reissued by ADEQ on January 12, 2021 and contains requirements for the development and content of this document. Tempe is required to develop a SWMP that outlines the specific goals, objectives and associated timelines for the management and monitoring of activities that impact the quality of stormwater runoff based upon the Permit conditions.

The SWMP addresses seven major areas including Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination (IDDE), Municipal Facility Pollution Prevention and Good Housekeeping Practices, Industrial and Commercial Facilities Pollution Prevention, Construction Sites and Post-Construction. The SWMP has been written to reflect the requirements of the Permit in addition to providing the details of the major program areas; therefore, the SWMP includes five sections including an Executive Summary, introduction, a description of how the stormwater program is managed, sections addressing the major program areas and additional sections describing the training program.

The SWMP is a comprehensive planning tool that guides the implementation of the stormwater program components and provides a mechanism for measuring progress towards the program objectives. It is the goal of the SWMP to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable (MEP), to protect water quality and satisfy applicable surface water quality standards (SWQS). The SWMP was prepared with a central focus of describing Best Management Practices (BMPs) and/or control measures established to minimize the discharge of pollutants over the current Permit term. The SWMP describes a wide range of continuing BMPs, which are being implemented during the five-year term of the Phase I MS4 Permit and describes the overall management strategies planned by the city.

The SWMP was developed with input from multiple City of Tempe Departments.

Tempe has worked on Permit implementation in partnership with other Phoenix Area MS4s. Phase I MS4s include Phoenix, Glendale, Scottsdale, Mesa, Tempe, Tucson, Pima County and the Arizona Department of Transportation. All program specifics are unique to Tempe.

The SWMP translates the MS4 Permit requirements into city programs and procedures and is referenced by the city for development of ordinances, plans, policies and procedures to protect stormwater quality.

2.0 LEGAL AUTHORITY

Tempe is required to continue to maintain and enforce adequate legal authority to control the discharge of pollutants into and from the MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize Tempe to:

- Control through ordinance, permit, contract, order or similar means the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity.
- Control through ordinance, permit, contract, order or similar means the contribution of pollutants to the MS4 by stormwater discharges associated with construction activity and the quality of stormwater discharged from construction sites.
- Prohibit through ordinance, order or similar means illicit discharges to the MS4.
- Control through ordinance, order or similar means discharges to the MS4 of spills, dumping or disposal of materials other than stormwater.
- Require compliance with conditions in ordinances, permits, contracts or orders.
- Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions, including the prohibition of illicit discharges to the MS4.
- Establish requirements for post-construction stormwater controls.

Tempe maintains this authority in Chapter 12, Articles IV and VI; and Chapter 19, Article IV (Sec. 19-50 (b)&(d)) of the Tempe City Code. Copies of these ordinances can be found in attachment A. Over the course of the Permit term, Tempe will review and amend the Code where necessary. Tempe does not have the authority to enforce the provisions of Arizona's General Permit for Stormwater Discharges Associated with Industrial Activities as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi), Arizona's General Permit for Stormwater Discharges Associated with Construction Activity as defined in 40 CFR 122.26(b)(14)(x) or 40 CFR 122.26(b)(15), and non-stormwater discharges, except discharges associated with emergency firefighting activities. The AZPDES permit program is administered by ADEQ. However, local stormwater and grading and drainage ordinances may address items like those identified in these statewide permits.

3.0 ARIZONA SURFACE WATER QUALITY STANDARDS

Tempe is required to protect water quality by reducing the discharge of pollutants, to the MEP, that cause or contribute to an exceedance of any applicable SWQS established at the time the permit became effective including the narrative standards that are applicable to the Waters of the United States (WOTUS) and Arizona Protected Surface Waters receiving discharges from the MS4.

3.1 DISCHARGES FROM THE MS4 TO IMPAIRED WATERS

Section 303(d) of the Clean Water Act (CWA) requires that states, territories and authorized tribes develop lists of impaired waters in their jurisdictions. The lists are required to be updated every other year. Water bodies included on the 303(d) list are considered impaired because they do not meet water quality standards for at least one designated use. As of the 2018 proposed 303(d) list and other impaired water lists(s), WOTUS and Arizona Protected Surface Waters receiving discharges from Tempe have not been identified as impaired.

At the time of Permit issuance, Tempe's MS4 does not discharge to impaired waters nor to water bodies with established Total Maximum Daily Loads (TMDLs) for any 303(d) listed pollutants. If a TMDL is established during the Permit term, Tempe will evaluate the area and BMP procedures to control discharges.

4.0 Stormwater Management Plan (SWMP)

4.1 PROGRAM IMPLEMENTATION

The MS4 Permit is administered by Tempe's Water Utilities Division. However, multiple city departments and divisions are involved with the day-to-day responsibilities of implementing the stormwater program. Tempe is required to implement and maintain a SWMP designated to reduce the discharge of pollutants, from the MS4, to the MEP to protect water quality and satisfy applicable SWQS. The SWMP will be reviewed annually to modify or revise, as needed, existing elements and/or develop new elements to comply with the requirements of the MS4 permit. A SWMP Implementation Team is tasked with overseeing and assessing progress on each of the elements of the program. The Team includes representatives from each of the following city departments and divisions and functions with direct stormwater responsibilities:

Table 1: City Responsibilities

Department-Division	Responsibilities
Municipal Utilities- Water Utilities Division	Program Administration Public Education and Outreach Public Involvement Illicit Discharge Detection and Elimination Industrial and Commercial Inspections Outfall Inspections Enforcement and Compliance Mapping Wet Weather Monitoring Data Analysis Data Reporting Non-Filer Notification Drainage System Inspection and Maintenance Good Housekeeping Measures Municipal Facility Inspections Training Program Oversight Stormwater Infrastructure Retrofit Stormwater Management Plan Development Household Hazardous Waste Collections
Engineering and Transportation- Transportation Division	Street Sweeping Roadway Maintenance Volunteer Programs Good Housekeeping Measures Cursory Drainage System Inspections Illicit Discharge Detection and Elimination Reporting
Engineering and Transportation- Engineering Division	Capital Improvement Projects Plan Review Construction Site Inspections Non-Filer Notification Post-Construction Inspections Enforcement and Compliance Stormwater Infrastructure Retrofit
Municipal Utilities- Field Operations Division	Illicit Discharge Detection and Elimination Reporting Good Housekeeping Measures Volunteer Programs Public Involvement
Communications and Media Relations	Public Education and Outreach Public Involvement
Community Development - Development Services Division and Neighborhood Services	Public Education and Outreach Public Involvement Construction Site Plan Review

	Inventory Construction Site Inspections Post-Construction Inspections Enforcement and Compliance Non-Filer Notification Stormwater Infrastructure Retrofit
Community Services- Parks and Recreation Division	Drainage System Inspection and Maintenance Good Housekeeping Measures Volunteer Programs Illicit Discharge Detection and Elimination Reporting
Financial services – Facilities Maintenance and Custodial Services	Good Housekeeping Measures Illicit Discharge Detection and Elimination Reporting

The purpose of the SWMP team is to direct the implementation of the SWMP and to coordinate program implementation at the appropriate organizational level. When changes to legislative initiatives and regulatory requirements occur, the Stormwater Program Administrator (Environmental Program Supervisor) reaches out to the SWMP team members for technical assistance and support.

4.1.1 Enforcement

Tempe created an Enforcement Response Plan (ERP) that addresses violations and suspected violations of the City's Storm Water Pollution Control ordinances, Chapter 12, Articles IV and VI, Tempe City Code. The ERP was adopted by City Council and was approved by ADEQ on December 28, 2012. Tempe follows the ERP when initiating enforcement of the stormwater ordinance. Section VI is specific to stormwater enforcement response. Municipal stormwater enforcement activities are initiated by Tempe's Environmental Services Section. Resolution of general construction and post-construction violations is initiated by Tempe's Engineering and Development Services Divisions, respectively. If issues aren't resolved and there's a potential to result in illicit discharge to the MS4, the Environmental Services Section will proceed with enforcement according to the ERP.

The city maintains records of enforcement activities including:

- Inspection reports and narratives
- Copies of communications with the parties in violation of city code
- Documentation of follow-up actions
- Responses received from violators

4.2 Public Education and Outreach

4.2.1 Introduction

Public education and outreach are an important element of Tempe's stormwater program. Increasing public awareness of stormwater pollution concerns and prevention ultimately serves to reduce the contribution of pollutants in stormwater runoff. Tempe will continue to operate a city-wide public education and outreach program to educate the community (developers, contractors, homeowners, public, etc.) on stormwater management practices, impacts to stormwater discharges and steps that can be taken to reduce stormwater pollution and, where feasible, continue efforts regionally through involvement with organizations such as Stormwater Outreach for Regional Municipalities (STORM) as long as such organizations continue to provide value to the city. The annual report will summarize the outreach topics and target groups.

4.2.2 MS4 Permit Requirements

The city's MS4 Permit identifies target audiences and topics for the public education and outreach component of the SWMP. These requirements are divided into two distinct categories: public and business sector.

4.2.3 Public

Tempe will provide public education and outreach to at least one target group on one or more of the topics listed in Table 2 during each year of the Permit.

Table 2: General Public Education and Outreach Requirements

Target Group	Topics
General Public Residential Community Homeowners Associations Schools	i. Post-construction ordinances and long-term maintenance requirements for permanent stormwater controls. ii. Stormwater runoff issues and residential stormwater management practices. iii. Potential water quality impacts of application of pesticides, herbicides, fertilizer and control measures to minimize runoff of pollutants in stormwater. iv. Potential impacts of animal waste on water quality and the need to clean up and properly dispose pet waste to minimize runoff of pollutants in stormwater. v. Illicit discharges and illegal dumping, proper management of non-stormwater discharges and information on reporting spills, dumping and illicit discharges. vi. Spill prevention, proper handling and disposal of toxic and hazardous materials and measures to contain and minimize discharges to the storm sewer system. vii. Installation of catch basin markers or stenciling of storm sewer inlets to minimize illicit discharges and illegal dumping to the storm sewer system. viii. Proper management and disposal of used oil. ix. Community activities (monitoring programs, environmental protection organization activities, etc.).

4.2.4 Business Sector

Tempe will provide business sector education and outreach to at least one target group on one or more appropriate topic(s) listed in Table 3 during each year of the Permit.

Table 3: Business Sector Education and Outreach Requirements

Target Group	Topics
Development Community Construction Site Operators Targeted sources or Types of Businesses (industrial or commercial)	i. Planning ordinances and grading and drainage design standards for stormwater management in new developments and significant redevelopments. ii. Municipal stormwater requirements and stormwater management practices for construction sites. iii. Illicit discharges and proper management of non-stormwater discharges. iv. Spill prevention, proper handling of toxic and hazardous materials and measures to contain and minimize discharges to the storm sewer system. v. Proper management and disposal of used oil and other toxic materials, including practices to minimize exposure of materials/wastes to rainfall and minimize contamination of stormwater runoff. vi. Stormwater management practices, pollution prevention plans and facility maintenance procedures.

	vii.	Water quality impacts associated with land development (including new construction and redevelopment).

4.2.5 Implementation

The city will continue to implement existing outreach program elements and further explore stormwater-related public education and outreach opportunities to meet target group and topic requirements. Mechanisms used to disseminate education and outreach messages will include, but are not limited to, the following:

- Commercial and Industrial electronic "Environmental Bulletins"
- Postcards
- *Tempe Today* newsletters for water and sewer customers
- Social media
- Public events
- Brochures
- City websites
- City of Tempe facilities
- Consumer Confidence Reports
- Kiosks

The City of Tempe will target specific residential communities with applicable stormwater messaging to evaluate and measure the adoption or improvement of targeted behaviors. Tempe will survey the targeted audience before and after messaging to the selected residential communities.

4.3 PUBLIC INVOLVEMENT AND PARTICIPATION

The City of Tempe shall engage the public to effectively message stormwater pollution prevention, to undertake group activities that highlight storm drain pollution and contribute volunteer community actions to restore and protect surface waters. Details of the public involvement/participation strategy are described below.

1) City of Tempe will host an annual SWMP workshop to inform and engage interested members of the public with the development and implementation of all parts of the SWMP.

2) Opportunities for public participation with stormwater pollution prevention activities.

   Volunteer programs such as Adopt-A-Park and Adopt-A-Street are a component of the public involvement and participation portion of the city's stormwater program. The addition of programs such as these has allowed for a more detailed and accurate assessment of proactive pollutant prevention and elimination activities and allows the public and community service workers an opportunity to help Tempe remove trash and debris that could otherwise end up in the MS4 system and/or subsequently a WOTUS. Information on Tempe's Adopt-A-Park, Adopt-A-Street, Adopt-A-Path and Adopt-An-Alley can be found at tempe.gov/adopt.

   Tempe continues to operate its Household Products Collection Center (HPCC), which opened in 1999. The HPCC provides Tempe residents with an outlet for disposing of and recycling potentially hazardous household products. Materials commonly collected include batteries, used motor oil, paint, antifreeze, pesticides, herbicides and solvents. Materials are either recycled or disposed of

in accordance with local, state and federal regulations. Usable materials, such as paint, are processed, packaged and made available to Tempe residents free of charge. Information on the HPCC and the proper handling and disposal of household hazardous waste, is available at tempe.gov/HHW.

In addition to these programs, Tempe will continue to maintain "doggy bag" dispensers at various Tempe parks. This activity specifically involves the public in the reduction of pet waste that has a potential to reach the MS4.

Public participation opportunities are available at outreach events and program contact information is provided with all outreach materials.

3) Tempe provides the public with the opportunity to participate actively in the city's stormwater program by providing avenues for the reporting of spills, discharges or dumping within the community. In this capacity, Tempe continues to operate its stormwater hotline and web-reporting form for public reporting of illegal discharges to the city's storm drain system. Means of reporting are as follows:

   - 480-350-2811 Stormwater Hotline
   - 480-350-4311 Tempe 311 - One Call to City Hall
   - Tempe 311 Smart Phone Application (https://www.tempe.gov/government/communication-and-media-relations/tempe-311)
   - Tempe 311 Online Service Request Form (tempe.gov/Tempe311)

4) In addition to these activities, Tempe regularly disseminates information on the website tempe.gov/stormwater. On this webpage are copies of most current SWMP, Annual Report and best management practices. The page also allows public comments on the stormwater program and to report IDDEs.

4.4 Illicit Discharge Detection and Elimination (IDDE)

Tempe is required to implement a program to detect, investigate and eliminate non-stormwater discharges including dumping and spills into the MS4 system. Illicit discharge means any discharge to the MS4 that is not composed entirely of storm water with the exception of discharges pursuant to a National Pollutant Discharge Elimination System (NPDES) or AZPDES permit, discharges resulted from firefighting activities and allowable non-stormwater discharges in section 4.4.1.

4.4.1 Allowable Non-Stormwater Discharges

The following non-stormwater discharges are not addressed by the IDDE Program in accordance with 40 CFR 122.26(d)(2)(iv)(B)(1) and Tempe City Code, Section 12-125(c)(3), provided they are not significant sources of pollutants to Waters of the United States and protected surface waters:

1. Water line flushing
2. Landscape irrigation
3. Diverted stream flows
4. Rising ground waters
5. Uncontaminated groundwater infiltration to separate storm sewers
6. Uncontaminated pumped groundwater
7. Discharges from potable water sources
8. Foundation drains
9. Air conditioning condensation
10. Irrigation water
11. Springs
12. Water from crawl space pumps
13. Footing drains

14. Lawn watering
15. Individual residential car washing
16. Flows from riparian habitats and wetlands, as those areas are designated under applicable federal and state laws
17. De-chlorinated swimming pool discharges
18. Street wash water
19. Discharges or flows from emergency firefighting activities
20. Discharges authorized by another NPDES or AZPDES permit

4.4.2 MS4 Mapping

Tempe Inspectors will use the collected information to help identify and eliminate illicit discharges. Once the flow source from another jurisdiction (Scottsdale, Maricopa County, Arizona Department of Transportation, Mesa, Arizona State University, Salt River Project) is identified, Tempe will notify the appropriate authorities of interconnected MS4s to conduct follow-up inspections and corrective action.

Tempe's MS4 permit mapping requirements are maintained in the Geographic Information System database. Upon completion or modification, Tempe will maintain maps of the MS4 system showing the following items:

- Known Outfalls and drainage areas: Point layer showing the location of all major outfalls (pipes or culverts); polygon layer showing the drainage area associated with each of the outfalls.
- Known Interconnections with other MS4s.
- WOTUS receiving discharges from outfalls.
- Storm sewer map including:
    - Linear Drainage Structures: Line layer showing the location of all stormwater system pipes and the direction of stormwater flow.
    - Storm Drain Inlets and Catch Basins: Point layer showing the locations of all storm drain inlets and catch basins.
    - Detention/Retention Basins: Point or polygon layer showing the locations of all identified city-owned retention and detention basins that are connected to the municipal stormwater conveyance system (i.e., that receive drainage from or discharge to a stormwater conveyance).
    - Jurisdictional MS4 Boundary: Line or polygon layer showing the jurisdictional boundaries of the MS4, including any new land annexations during the Permit term.

4.4.3 Municipal Employee Training

Please see Section 5.0 for employee training information.

4.4.4 Spill Prevention and Response

Several Permit sections require various plans, documents or procedures ensuring the proper handling, storage and disposal of chemicals and response to chemical spills. Tempe's efforts in this area involve multiple city sections, all of which serve an important role related to the protection of human life and the environment. Below is a summary of activities performed by the various city sections.

Environmental Services

Tempe's Environmental Services Section is responsible for industrial, commercial and initial municipal facility stormwater inspections required by the Permit. In part, the purpose of these inspections is to ensure proper housekeeping and the implementation of stormwater BMPs pertaining to spill prevention. During these inspections, facility chemical storage practices are reviewed from an environmental protection perspective. All inspected facilities are advised of chemical handling BMPs. Municipal facilities at which any single container exceeding five gallons of a hazardous material is stored are required to post or maintain documentation of

practices and procedures designed to prevent and respond to spills that may come into contact with stormwater. Industrial and commercial facilities are required to demonstrate appropriate MS4 protection.

Tempe's Environmental Services Section is also responsible for city-wide MS4 stormwater training and city-wide education and outreach. Much of this training and community education and outreach includes the topics of proper chemical handling and use, spill prevention, storage, disposal and spill response practices.

Household Products Collection Center (HPCC)

The HPCC provides various levels of support for chemical handling, storage, disposal and spill response practices. In large part, the HPCC is a city-wide liaison for the acquisition of necessary spill prevention and response equipment and Tempe's in-house mechanism for the disposal of chemical wastes. The HPCC also maintains and implements Tempe's Hazardous Waste Management Plan (HWMP).

Risk Management

Risk Management provides support, guidance and training in areas related to chemical handling, storage and spill response. All city-wide safety programs are managed by this section and include the City of Tempe's Hazard Communication Program, which was developed to inform employees of their "Right-To-Know" about all physical and health hazards associated with handling materials that contain hazardous ingredients.

Fire and Medical Rescue Department

The Tempe Fire and Medical Rescue Department provides emergency response services for incidents involving hazardous materials. Stormwater protection is a critical part of emergency response procedures and is included as part of the city's emergency response training. The Tempe Fire and Medical Rescue Department's Hazardous Materials Policy addresses containment of hazardous materials as a critical component of spill response procedures.

City-wide

In the event a spill occurs, regardless of origin, cause, location, etc., Tempe can utilize contracted environmental response professionals for responses for which the city is not equipped.

These, and other discharges, are managed as a result of notification from the public or Tempe employees, inspections and/or investigations. If a discharge must be eliminated, Tempe inspectors will initiate enforcement action.

4.4.5 Inspections and Screening

1. Tempe will continue to implement its IDDE program designed to detect identify non-stormwater discharges to the MS4 that is equivalent to the *IDDE Guidance manual 2004 (link).*

2. Outfall Inventory

Tempe has identified 41 major outfalls as defined by 40 CFR 122.26. A list identifying the outfall name, size, location (latitude/longitude), receiving water and priority status can be found in the IDDE Guidance Manual (see attachment B).

A map of all major outfalls that have been a source of illicit discharge in the past five years (unless the source has been eliminated or has been shown not to be a significant) can be found in the IDDE Guidance Manual.

Of these 41 major outfalls, 15 are identified as priority outfalls because they discharge to Waters of the U.S or Arizona Protected Waters. Priority outfalls are determined using the following criteria:

- All major outfalls that discharge to an impaired or an outstanding Arizona water (OAW) or other perennial water.
- All major outfalls that have been a source of illicit discharge in the past five years unless the source has been eliminated or has been shown not to be a significant source of pollutants.
- All major outfalls identified as priority by the city for illicit discharges.

The number of priority outfalls is subject to change based upon changes in receiving water designation, detection of illicit discharges that have not been eliminated or shown to be a significant source of pollutants, elimination of illicit discharges or confirmation that non-stormwater flows do not contain a significant source of pollutants, system changes or the identification of previously unidentified outfalls, or other factors.

3. Tempe is required to inspect all priority outfalls annually and approximately 20% remaining major outfalls each year. Tempe has established an internal goal to inspect all major outfalls annually. If prohibited discharges are identified, more frequent quarterly inspections may be implemented.

4. Outfall inspections are conducted utilizing standard field screening procedures and are typically completed when rainfall, temperature and moisture are lowest, but may be conducted at any time in dry weather conditions. Field screening includes:
    a. Visual inspection for flow, trash, suds, odors, etc.
    b. Field sampling when significant flow is observed for chemical indictor parameters.
    c. Re-inspection and sampling within 24 hours, if flow is still present.

Physical/Chemical Observations

If screening is needed based upon General Information findings, the parameters in Table 4 will be observed or field tested and documented.

Table 4: Field Screening

Parameter/ Analyte	Method*	Trigger*
Color	Visual	"Off-color"
Odor	Olfactory	Chemical, gas, sulfur, etc.
Clarity	Visual or Field	Highly turbidity
Floatables/Oil	Visual	Presence of solid or liquid floatables or sheen
Stains/Deposits	Visual	Presence
Biological Growth	Visual	Excessive growth, death, etc.
Temperature	Field	Hot or cold compared to ambient
pH	Field	< 6.5 or >9 Standard Units
Total Residual Chlorine	Field	>0.02 ppm, >4 ppm, depending on SWQS
Copper	Field	Presence
Phenol	Field	Presence
Detergents	Field	Presence

*Methods and Triggers are detailed in Tempe program guidance documents.

Any flow for which the discharge is unknown, or an analytical trigger is reached will be screened again within 24 hours, with a minimum of four hours between samples, for verification.

If upon the second screening the flow remains, or the analytical trigger is still exceeded, a source identification investigation will be initiated. If upon the second screening the flow is absent, and/or the analytical trigger is no longer exceeded, a screening follow-up will occur at the same location within three months. If the three-month follow-up screening does not detect flow or a trigger exceedance, routine screenings at this location will resume. If the three-month follow-up does indicate flow or an analytical trigger exceedance, a source identification investigation will be initiated.

Once inspections are completed, field data forms are provided to the next level of supervision for review. Upon review completion, forms are provided to the stormwater Environmental Quality Specialist for MS4 Permit tracking and reporting.

4.4.6 Investigation Timelines

Tempe will respond to 90% of all reported potential illicit discharges and initiate investigation of these discharges within five business days of detection or reporting. If the discharge is found to be illicit, corrective action, including enforcement mechanisms, will be used to eliminate illicit discharge within 60 days of identification, when feasible. Discharges found to not be a significant source of pollutants are not subject to the 60-day timeframe, but Tempe will maintain documentation of all investigations, sampling and information used to assess "significance".

Tempe is required to immediately respond to all reports of illicit discharges which constitute a threat to human health or the environment. The city is also required to investigate (or refer to the appropriate agency with authority to act) within five business days at least 90% of all reports of illicit discharges to the city's MS4.

Any identified wastewater discharges, such as raw sewage or grease, will be immediately investigated and eliminated as soon as practicable.

The Environmental Services Section investigates illicit discharges within 24 hours of receiving the report.

Please refer to the IDDE Program Guidance Manual for additional investigation timeline information attachment B Section 2.A.

Industrial Facility Inspections

Tempe inspects industrial and commercial facilities to identify potential sources of illicit discharges to the storm sewer system. These inspections may be initiated as a result of a complaint or may be part of Tempe's industrial/commercial facility inspection program. Please see Section 4.6.6 for more detailed industrial/commercial facility inspections information.

4.4.7 Elimination

Tempe inspectors will use the collected information to help identify and eliminate illicit discharges. Once the flow source is identified, Tempe will take necessary corrective action consistent with City of Tempe Ordinance to eliminate any discharges detected within 60 calendar days of identification of the source. Sources that are fully investigated and determined to not cause or contribute to SWQS, are not subject to these timeframes. Tempe will retain documentation of the investigation, sampling and reasoning to determine the discharge does not contain significant levels of pollutants.

4.4.8 Compliance Activities and Enforcement

Tempe has adopted ordinances prohibiting and eliminating illicit discharges and has established programs to enforce them. Tempe maintains this authority in Chapter 12, Articles IV and VI and Chapter 19, Article IV (Sec 19-50 (b) and (d)) of the Tempe City Code. Copies of these ordinances can be found in attachment A. Through enforcement of City Code and implementation of this SWMP, Tempe is able to prevent and eliminate illicit discharges to the MS4.

Tempe's stormwater ordinance prohibits non-stormwater discharge to the public storm drain system. This prohibition does not apply to discharges authorized by ADEQ or Environmental Protection Agency (EPA) or discharges that are not anticipated to be a significant source of pollutants. Any discharge that could result in or contribute to a violation of Tempe's Phase I MS4 Permit is also prohibited. Tempe's ordinance also allows for enforcement of code violations and any preventative or mitigation measures that may be needed.

Tempe has a stormwater specific ERP that became effective December 28, 2012. All formal stormwater enforcement activities are conducted by Tempe's Environmental Compliance Inspectors. General construction/post-construction violations (i.e. stormwater control measures) are initially addressed by Tempe's Engineering and Community Development Divisions. If construction site violation is not readily resolved the issue will be forwarded to Environmental Services for further enforcement via the ERP. The ERP is available online at tempe.gov/home/showdocument?id=2932.

The City's Enforcement Response to any Violation of Chapter 12, Article VI, may include, but is not limited to, the following:

- Contact by Environmental Compliance Inspector.
- Provision of educational material with BMP and Code requirements and/or prohibitions.
- Written warning letter advising the person of the specific code violation(s).
- Written order to immediately remove pollutant from MS4 and to restore to original condition.
- Written order to implement or correct BMP activities.
- Issuance of Notice of Violation.
- Issuance of Administrative Order, which may include:
  - Affirmative obligations: i.e., increased sweeping or track out pad maintenance.
  - Prohibited actions or obligations to cease and desist.
  - Other appropriate orders.
- Administrative Fines.
- Emergency suspension or permanent termination of water and wastewater service.
- Hearing to show cause.
- Publication of significant violators and imposition of fines.
- Judicial enforcement action, including injunctive relief and criminal prosecution.

Enforcement of Violations of Chapter 12, Article VI, from domestic sources shall be limited to items 1 through 5 unless the Municipal Utilities Director determines that special circumstances warrant additional enforcement measures.

4.4.9 Recordkeeping

Non-stormwater discharges identified by field personnel are recorded in a "callout" database. After inspections are completed, findings and any actions initiated are indicated in the appropriate database fields. The summary of IDDE activities will be submitted in a tabular format within the annual report. The fields submitted will be submitted with the following fields:

a. City of Tempe AZPDES Number
b. Date incident reported

c. Response date
d. Completed date
e. Discharge to WOTUS
f. Address or coordinates
g. Pollutants
h. Source
i. Correction Method

4.5 Municipal Facility Pollution Prevention and Good Housekeeping Practices

4.5.1 Municipal Employee Training

Please see Section 5.0 for employee training information.

4.5.2 Inventory and Inspections

The City of Tempe is subject to federal and state stormwater regulations as prescribed in AZPDES Permit No. AZS000005 effective on July 1, 2021 Section 4.5.B. These regulations and permit requirements necessitate the implementation of a program to prioritize and inspect City of Tempe facilities and assess each facility's potential to release pollutants to the MS4 or directly to a WOTUS. The goal of this program is to minimize the discharge of pollutants with potential to negatively impact receiving waters, drinking water sources and wildlife to the maximum extent practicable.

Applicability

This program is applicable to all City of Tempe facilities that are owned and operated by the city that have potential to discharge pollutants to the MS4 or directly to a WOTUS. The types of facilities included on the inventory and priority lists include:

- Equipment storage and maintenance facilities.
- Fleet maintenance facilities (vehicle washing and maintenance, chemical handling, waste storage).
- Hazardous waste disposal facilities.
- Hazardous waste handling and transfer facilities.
- Material and waste storage yards and processing facilities.
- Publicly Owned Treatment Works (POTW) and sludge handling areas.
- Recycling facilities.
- Street repair yards and street maintenance yards.
- Other sites or sources that the City of Tempe determines may be significant sources of pollutants to the MS4.

Applicable facilities will be ranked and prioritized by their potential to discharge pollutants in stormwater and are based on the following factors:

- Quantity and location of materials used and/or stored at the facility.
- Potential for exposure to stormwater.
- Potential to discharge a substantial pollutant load to the MS4 or to a WOTUS.

Facilities that are already covered under the MSGP or another AZPDES permit, or have a No Exposure Certification (NEC), will be ranked as "low" priority for consideration under this permit because the facility is following inspection requirements for those permit conditions.

Tempe Environmental Services Section will annually inspect approximately 20% of all applicable prioritized facilities.

Program Outline

Inventory

The City of Tempe Environmental Services Section (ESS) has developed an inventory of 152 City of Tempe facilities based upon the potential to discharge to the MS4 or a protected surface water, nine are prioritized and subject to inspection under this permit. This information was obtained from internal municipal sources. The list will be reviewed and updated as necessary annually.

An inventory of these facilities can be found in attachment C.

Spills

For purposes of this program the City of Tempe Facility Chemical Handling and Spill Procedures document has been developed to outline practices and procedures designed to prevent and respond to spills that may come into contact with stormwater. This document is a single page, easy to read, and designed to be posted at any municipal facility that handles, stores or otherwise uses chemical material where any single container exceeds five gallons.

Hazardous Waste Material Handling

Any facility that handles, stores, transports, disposes of, or generates hazardous waste must maintain a copy and follow procedures outlined in Tempe's HWMP. This plan is managed by Tempe's Environmental, Health and Safety Section and is reviewed and revised, if necessary, at least every two years. At least one reviewing member includes an Environmental Services Section member that is knowledgeable in stormwater regulations and may provide recommendations that include practices to minimize hazardous material exposure to precipitation.

General

In addition to chemical storage, Tempe will evaluate potential sediment discharge, storage practices, site activities and general housekeeping.

Employee Awareness

During facility inspections conducted by ESS, employees at the inspected facilities will receive "stormwater awareness" reminders. These reminders are not formal, are separate from the permit required municipal employee training, and is designed to provide general awareness of the permit to those that do may not require formal training.

Procedures

Municipal facility inspections will be conducted by ESS. All inspections will be documented using an inspection form developed by ESS. All municipal facilities will be inspected, prioritized high, low or no risk and placed on an inspection schedule by July 2021. The municipal facility inspections procedures will include:

- Inspection dates will be determined by ESS.
- High priority facilities will be inspected at least annually, low priority facilities will be inspected at least once every three years for compliance with this permit. All facilities may be inspected for requirements not associated with the MS4 permit more frequently and if stormwater concerns are noticed they will be addressed.
- Inspections must be completed by the established deadline to allow for follow-up corrective action if needed.

- Inspections requiring follow-up action or facility improvements must be satisfactorily addressed within three months of inspection date and as soon as practical, reported to ESS for recordkeeping and possible follow-up inspection.
- The information gathered during the inspections and follow-up corrective correspondence will be used to prioritize or re-prioritize the facility for future inspections.
- Priority ranking will be tracked on the ESS Facility Inventory Sheet.
- Facility inspections and follow-up requirements will be tracked in the ESS Facility Storm Inspection Follow-up Log.
- Copies of interim or final inspection reports will be provided to facility managers within 30 days following the of inspection. Facilities requiring immediate corrective action will be notified as soon as practicable.
- All inspection reports will be scanned and saved by ESS and reported to ADEQ with applicable annual report.

Communication

Compliance with these provisions is heavily reliant upon timely communication between the facility managers and regulatory team members. Please contact ESS with any questions at 480-350-2684.

4.5.3 Good Housekeeping Measures

Tempe is required to implement practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned and operated by the City of Tempe. Lands owned and operated by the City of Tempe include, but are not limited to parking lots, streets, roads, highways, buildings, parks, open space, road right-of-way, maintenance yards and stormwater treatment and flow control BMP/facilities. Good housekeeping measures are described in more detail in the City of Tempe's stormwater best management practices field manual attachment D.

4.5.3.1 Pipe, culvert and ditch maintenance and cleaning

Tempe manages several proactive program activities designed to minimize the discharge of pollutants from Tempe owned and operated infrastructure. These activities involve the routine inspection, cleaning and maintenance of stormwater infrastructure and involve several city workgroups: Environmental Services, Parks and Recreation, Transportation Maintenance and Water Operations. Each area maintains responsibilities for various aspects of stormwater infrastructure inspection and cleaning/maintenance. For purposes of this program, infrastructure includes all aspects of the MS4 such as catch basins, drywells, bubbler boxes, inlet structures, outfalls, streets, conveyance pipes, retention basins, etc. Outfall inspections are covered separately in Section 4.4.6 and municipal facilities inspections are covered in Section 4.5.4.

Defined areas of the MS4 drainage system that are a priority for inspection and are based upon system history, location within the city (e.g., downtown), public input, workgroup specialties, etc. Each city workgroup that conducts activities is required to routinely enter program activities into Tempe's compliance tracking database for evaluation of program status. This information is reviewed by Tempe's Regulatory Compliance Group and available for ADEQ to review when requested.

Tempe developed a stormwater best management practices field manual in July 2021 and implements these practices. The manual contains standard control measures and procedures in a manner that protects stormwater and conveyance structures for pipe, culvert and ditch maintenance and cleaning.

Stormwater Inspection and Maintenance

The Water Utilities Division is responsible for the operation and maintenance of Tempe's water and wastewater infrastructure and beginning in 2017-2018 stormwater infrastructure. Water Operations also maintains the contracts for any additional infrastructure cleaning services needed. This section has a vactor truck, a utility vehicle and a three-person crew dedicated to performing stormwater-related inspections, cleaning and maintenance activities. The group will perform at least 360 catch basin inspections per year.

Parks and Recreation

Tempe provides routine maintenance of various parks, retention areas, common areas, open areas and recreational areas throughout the city. Since many of these areas maintain critical components of Tempe's stormwater infrastructure, the Parks Maintenance section has implemented an inspection program that will result in the inspection of at least 200 stormwater infrastructure components annually.

Closed Circuit Television (CCTV)

Tempe's Water Utilities Division, Water Operations Section operates one sanitary sewer CCTV crew. As a component of the MS4 program, this crew is available to conduct underground infrastructure inspections for Streets, Parks or Water Utilities work groups. The crew also conducts MS4 CCTV inspections on an as needed basis.

Street Cleaning

Tempe's Transportation Maintenance Section is tasked with the maintenance and cleaning of Tempe streets including street sweeping and maintenance of right of ways. To reduce the amount of debris entering the MS4, Tempe continues to implement an effective street sweeping program. Based upon historic sweeping activities, the following schedule provides significant debris removal at an operationally feasible frequency. Adherence to this schedule varies occasionally due to unforeseen events that require staff and/or equipment reprioritization.

- Arterial streets are swept once every two weeks.
- Residential, collector and industrial streets are swept once every month.
- City-owned parking lots are swept once a month.
- Upon request (e.g., water main breaks, emergency road repairs, track out, special events, etc.).

The approximate number of linear miles based upon above-described frequencies, and approximate amount of debris removed will be tracked annually.

In addition to street sweeping outlined above, Streets visually scans catch basins during sweeping and right-of-way maintenance operations. On an as needed basis, Streets staff will notify the Water Operations Section of MS4 maintenance and/or cleaning needs. These visual scans are not specifically documented beyond noting the location for cleaning/maintenance referral.

Additional best management practices are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Table 12.

4.5.3.2 Road repair and resurfacing

The Transportation Maintenance section is responsible for the maintenance of city streets, alleys, sidewalks, traffic signals, street lighting, street signs, roadway striping and right-of-way maintenance. Paving and concrete operations have the potential to generate significant quantities of debris and sediment that can enter the stormwater system, posing potential infrastructure operational issues.

Most Tempe sealing paving and milling work is contracted; however, when small jobs are conducted by Tempe staff, BMPs described in detail in the City of Tempe's stormwater best management practices field manual, attachment D section five, will be used as appropriate.

The Field Operations section is responsible for maintaining alleyways in response to resident request or as needed. Maintenance may include application of a chemical stabilizer to suppress dust or stabilization with Aggregate Base Course or Recycled Asphalt Products in alleys used by the city for refuse pick up. BMPs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Table 17.

4.5.3.3 Utility Installation

Most utility installation operations are contracted. Contractors are contractually obligated to implement appropriate BMPs for such operations. BMPs for smaller repairs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Section 4.

4.5.3.4 Maintaining roadside areas including vegetation management

Right of way vegetation maintenance operations are contracted. Contractors are contractually obligated to implement appropriate BMPs for such operations.

The Field Operations Division is responsible for some vegetation management in alleyways. BMPs for smaller repairs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Section 6.

4.5.3.5 Dust control

Many activities may require the use of water as a dust suppressant. Field Operations, Parks and Recreation, Water Utilities and Transportation Maintenance BMPs are described in detail in the City of Tempe's Dust Control Plan for the block permit and Dust Action Plan for HB 2798 and City of Tempe's stormwater best management practices field manual, attachment D section 3.

4.5.3.6 Application of Pesticides, Herbicides and Fertilizers

Tempe's Parks Maintenance and Transportation Maintenance sections continue to reduce the amount of pesticides and herbicides used by employing integrated pest management practices. When pesticide use is needed, established pesticide application best management practices are utilized as described in the Integrated Pest Management (IPM) Program, attachment E.

To minimize pesticides in stormwater runoff, the following BMPs for pesticide and herbicide applications by city staff or contractors are followed. These guidelines involve employing natural and physical controls and using the least toxic chemicals to achieve the desired result.

- Apply pesticides that are Federal Insecticide, Fungicide and Rodenticide Act approved for aquatic application in any area within or adjacent to WOTUS including ephemeral washes.
- Application directly to water bodies or to banks of water bodies requires permit coverage, and appropriate coverage will be obtained.
- Applicators must be certified in the appropriate license category with the Arizona Office of Pest Management or be employees under the direct supervision of a certified employee.
- The chemical storage areas, designated pest control vehicles, pest control logs, safety data sheets (SDS), sample labels and personal protective equipment are to be kept in accordance with the Arizona Department of Agriculture's Pest Management Division regulations.
- Application/disposal/spill cleanup procedures adhere to label and SDS instructions.
- When possible, IPM practices should be considered, using minimal or no pesticides and alternative natural approaches to remove unwanted pests.
- Pesticides should only be used when needed.

- Spot treatment should be used when possible, using the minimal effective amount of the least toxic chemicals.
- Equipment should be calibrated and maintained to prevent over application.
- Minimize off target effect: 1) avoid application during winds greater than five mph to prevent drift, 2) power sprayers should be used in a manner to prevent drift and application of chemical to areas that don't require treatment, 3) avoid application when rain is expected to prevent runoff.
- Annually review procedures to ensure BMPs are being followed.

4.5.3.7 Sediment and erosion control

Parks and Recreation and Field Operations are responsible for activities that have the potential to discharge sediment caused by erosion or stockpile management practices at their facilities. BMPs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Table 23.

4.5.3.8 Landscape maintenance and vegetation disposal

Parks and Recreation, Transportation Maintenance, Water Conservation, Field Operations and Facility Maintenance are responsible for activities which include landscape maintenance and vegetation disposal. Facility Maintenance section is responsible for landscape maintenance activities at the Tempe Center for the Arts.

Part of landscape maintenance is to prevent debris from entering storm drains. The team sweeps and blows any loose debris away from storm drain systems, during work and cleans up all clipping piles upon completion of work, doing one final sweep to make sure all loose debris is contained. Piles are secured and either sent with the contractor to the dump, or staff will dispose of it in the Green Waste role-off to be turned into mulch.

BMPs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Table 5.

4.5.3.9 Trash and pet waste management

The Field Operations Division, Parks and Recreation, Transportation Maintenance and Facility Maintenance are responsible for the collection, transportation and disposal of refuse in the City of Tempe. This includes all domestic homes and about 20% of Tempe's commercial and industrial facilities as well as all city parks and facilities. BMPs are described in detail in the City of Tempe's stormwater best management practices field manual attachment D.

Hazardous Waste Management Plan (HWMP)

Any facility that handles, stores, transports, disposes of or generates hazardous waste must maintain a copy and follow procedures outlined in Tempe's HWMP. This plan is managed by Tempe's Environmental Safety and Compliance Section and is reviewed and revised, if necessary, at least every two years. At least one reviewing member includes an ESS member that is knowledgeable in stormwater regulations and may provide recommendations that include practices to minimize hazardous material exposure to precipitation.

In addition to the HWMP, Tempe has implemented a Hazardous Waste Minimization Plan. As a generator of hazardous waste, the City of Tempe requires employees to implement waste minimization practices. Waste Minimization effectively reduces the amount of hazardous material that permanently leaves the process or operation areas. Minimization of hazardous wastes results in a reduced need for disposal, a lessened risk to the community and environment from hazardous waste releases, and conservation of natural resources.
BMPs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D Table 22.

4.5.3.10 Building exterior cleaning and maintenance

The Parks and Recreation and Facility Maintenance sections are responsible for building exterior cleaning and maintenance.

BMPs are described in detail in the City of Tempe's stormwater best management practices field manual, attachment D.

4.6 Industrial and Commercial Facilities

4.6.1 Municipal Employee Training

Please see Section 5.0 for employee training information.

4.6.2 Inventory

Tempe has developed an inventory of all industrial and commercial facilities within the city that are subject to inspection under Tempe's MS4 Permit. This inventory was developed using the following Permit-required criteria:

- Industrial facilities identified in 40 CFR 122.26(d)(2)(iv)(C).
- Other industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a substantial pollutant load to the MS4. These include automotive facilities for auto body (SIC 7532), auto repair (including dealership service) (SIC 5511, 753-7, -8, -9) and car washes (SIC 7542).

The inventory list was developed by acquiring information from InfoGroup, Government Division – ReferenceUSAGov Database. This included Tempe facilities subject to Multi-Sector General Permit (MSGP) as identified in 40 CFR 122.26(b)(14)(i, ii, iv-ix, xi).

An inventory of these facilities can be found in attachment F.

Other sources that may be used to identify industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a substantial pollutant loading to the MS4 are:

- Utility Billing Records
- Arizona State Emergency Response Commission – (Tempe facilities subject to Superfund Amendments and Reauthorization Act (SARA) Title III)
- EPA Enforcement and Compliance Online
- Tax and License Records (name, address, North American Industry Classification System code(s))
- Building Permit Records
- Multi-media inspections conducted by Environmental Compliance Inspectors
- Industrial or commercial facilities subject to Tempe's Pretreatment Program

The inventory of SARA Title III facilities is duplicative of MSGP in some respects and is inclusive of facilities within Tempe that are subject to industrial pretreatment permitting requirements. In addition to the above-listed facilities, Tempe has added restaurants as a "category of sources" with a potential to impact the MS4.

The industrial commercial inventory is maintained electronically and is modified regularly by Environmental Services staff based upon stormwater inspection information. Tempe continues to identify facilities that are subject to industrial pretreatment requirements as higher risk facilities due to the nature of such operations. For this reason, industrial pretreatment facilities are prioritized for annual stormwater inspections.

4.6.3 AZPDES Non-Filers

Tempe's Permit requires the city to provide a potential non-filer notification for industrial and commercial activities that are believed by the city to be occurring without ADEQ's required Notice of Intent to Discharge (NOI) authorization for permit coverage under the MSGP. During industrial and commercial inspections, Tempe inspectors use the inventory Standard Industrial Classification (SIC) codes with industrial/commercial activities and to determine potential MSGP applicability. Note that Tempe does not inspect for compliance with MSGP authorizations or requirements. If a facility may be eligible for coverage under the MSGP, but Tempe does not have evidence that coverage or a NEC has been obtained, Tempe will flag this inspection and document facility information for reporting to ADEQ. Tempe will provide the following potential non-filer information to ADEQ within 30 business days of identification:

- Business name and address
- Business SIC code
- Business contact number and name

4.6.4 Prioritization

Tempe will inspect approximately 20% of all facilities identified in section 4.6.2. This number will include re-inspections of facilities as deemed necessary by the inspections group. Inspections will be prioritized as outlined in Table 5.

Table 5: Industrial and Commercial Facility Ranking Criteria

Industrial and Commercial Stormwater Inspection Program Priorities
Priority #1
• Industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). • Facilities subject to Tempe's Pretreatment Program. • Industrial facilities that are subject to ADEQ's MSGP without a permit, No Discharge Certificate (NDC), NEC. • Facility compliance history. • Public complaints.
Priority #2
• Other facilities deemed to be a potential source of pollutants to the MS4 (e.g., automotive facilities, restaurants). • Facilities that may conduct activities that cause or contribute to SWQS exceedances.
Priority#3
• Industrial facilities that are subject to ADEQ's MSGP with a permit, NEC or NDC. • Facilities that acquired ADEQ MSGP, NOI, NEC or NDC coverage with SIC codes that may not require permit coverage. • SARA facilities pending verification of SIC code and potential to discharge pollutants.

To allow for inspection flexibility and the need to address impending stormwater quality issues related to industrial or commercial discharges, inspections may not always be conducted as outlined in this prioritization schedule.

4.6.5 Inspections

Tempe's inspection program is designed to identify and eliminate potential discharges of pollutants to Tempe's MS4, ensure compliance with the city's stormwater ordinance; and, consistent with Permit requirements, identify facilities that may be subject to ADEQ's MSGP. Procedures to accomplish this requirement are as follows:

- Inspectors will determine if the facility is conducting activities identified in 40 CFR 122.26(b)(14).
- If the facility is conducting such activities, inspectors will obtain the following information as appropriate:
  - Permit date
  - MSGP permit number
  - NEC issued date
  - NDC date
  - Any relevant compliance information from ADEQ
- If the facility is not subject to these state regulations or has the appropriate coverage, non-filer notification will not apply, though inspection documentation will be retained.
- If the facility is subject to these state regulations and does not provide evidence of the necessary coverage or no exposure certification, the facility will be advised of these potential state requirements and the city will provide ADEQ with this information semi-annually.

Inspection procedures vary depending on the type of facility that is being inspected. Table 6 summarizes the general topics covered during priority inspections.

Table 6: General Inspection Information

Topic	Example of Information Collected
General Facility Information	• Name • Address • Contact information • SIC Code
AZPDES	• MSGP activities (yes/no) • If yes, MSGP information gathered (NOI, NEC, numbers, dates, etc.)
Stormwater Discharge Location	• Waters of the U.S. • MS4 • Retention • Detention • Drywell • Other
Discharge to MS4	• Signs of any discharge to the MS4 (yes/no) • Signs of non-stormwater discharges (yes/no) • If yes, document action taken
Chemical Storage	• If chemicals/hazardous wastes stored onsite (yes /no) • If yes, document types of chemical or hazardous waste, quantity, location • Notes: • Potential for discharge • Exposure • Containment
Housekeeping	• If storage tanks note containment and maintenance needs • Check refuse containers for cleanliness and leakage • External cleaning/washing if yes, note discharge location

	• Check parking area for staining/maintenance needs • Exterior evidence of staining or grease waste
Other stormwater issues	• Document other activities that could contribute to the discharge of pollutants
Educational Material	• Types of BMP's distributed
Comments	• Any additional relevant information • Follow-up needed • Enforcement action • Analytical sample collection (if needed)
Photo Documentation	• Photo documentation (if needed)

Random, multi-media inspections (non-priority) are not considered high risk facility inspections and may not necessitate such detailed information. Such inspections may contain information that could initiate further investigation.

4.6.6 Compliance Activities and Enforcement

Tempe created an ERP that addresses violations and suspected violations of the City's Storm Water Pollution Control ordinances, Chapter 12, Articles IV and VI, Tempe City Code. The ERP was adopted by City Council and was approved by ADEQ on December 28, 2012. Tempe follows the ERP when initiating enforcement of the stormwater ordinance. Section VI is specific to stormwater enforcement response. Municipal stormwater enforcement activities are initiated by Tempe's ESS if issues aren't resolved and there's a potential to result in illicit discharge to the MS4 the ESS will proceed with enforcement according to the ERP.

The city maintains records of enforcement activities including:

- Inspection reports and narratives
- Copies of communications with the parties in violation of city code
- Documentation of follow-up actions
- Responses received from violators

Tempe will focus on having at least 80% of cases with the highest level of enforcement action resolved within one calendar year of the initial inspection/violation.

4.6.7 Recordkeeping

Once inspections are completed, electronic inspection reports are available through the data management platform to Tempe's Environmental Quality Specialist for review.

4.7 Construction Sites

4.7.1 Municipal Employee Training

Please see Section 5.0 for employee training information.

4.7.2 Plan Review

Tempe's stormwater construction program is managed by the Engineering and Transportation Department, Engineering Division for Capital Improvement Projects (CIP) and the Community Development Department, Development Services Division for private

development projects. The program encompasses plan review, inventory, prioritization, inspection and enforcement projects that will result in a land disturbance of one acre or more, and those that disturb less than one acre but are part of a larger common plan of development.

For construction projects that will result in a land disturbance of one acre or more, and those that disturb less than one acre but are part of a larger common plan of development, the City of Tempe will:

- Review at least 80% of the plans for all new development and significant redevelopment projects (such as grading and drainage plans). The review will verify conformance with Tempe's requirements for stormwater, erosion and sediment control and land use decisions prior to issuing construction approvals or authorization.
- Require proof of ADEQ's AZPDES NOI to Discharge Authorization, NDC or erosivity waiver from the Project's owner/developer prior to issuance of a grading and drainage permit or construction authorization.

4.7.3 Inventory

Tempe's Engineering Division and Development Services Division each maintain and update, an inventory of their respective construction projects that will result in a land disturbance of one acre or more, and those that disturb less than one acre but are part of a larger common plan of development. The private development project inventory is extracted from Community Development's permit database, which is continuously updated with new projects when any project is issued a grading and drainage permit.

Construction projects will be inventoried and tracked using a spreadsheet that is routinely maintained and updated. Projects will be removed from the inventory list when construction is complete and the Construction Notice of Termination (NOT) is filed with ADEQ.

Tempe's Permit requires the city to provide a potential non-filer notification for construction activities that are believed by the city to be occurring without ADEQ's required NOI under the Construction General Permit (CGP). If a facility may be eligible for coverage under the CGP, but Tempe does not have evidence that a NOI, NDC or waiver has been obtained, Tempe will document facility information for reporting to ADEQ. Tempe will provide the potential non-filer information to ADEQ within 30 business days of identification.

4.7.4 Construction Site Prioritization

The inventory list of qualifying non-municipal construction sites will be reviewed on a quarterly basis. Inspection staff will identify the sites that have a higher potential to discharge to the storm sewer system.

The inventoried construction sites will be prioritized using a predetermined rating system. The sites will be ranked on a scale of one to five where one through four is low priority and five is high priority.

4.7.5 Inspections

The Engineering Division and the Development Services Division inspect construction projects that are granted permits. Construction sites are inspected based on the ranking system in section 4.7.4.

Sites with high prioritization will be inspected at least one time every three months and sites with low prioritization at least one time every six months to confirm that effective erosion and sediment controls are in place and verify conformance with Tempe's stormwater requirements and approved construction plans. Inspectors will conduct follow-up inspections of construction sites to ensure stormwater deficiencies or concerns of non-compliance identified were corrected.

Inspection records are scanned and stored electronically in Tempe's document filing system. Scanned files are sent to Environmental Services.

At a minimum, the following items are addressed during construction site inspections:

- For projects of one acre or more, verify that the Storm Water Pollution Prevention Plan (SWPPP), the AZPDES NOI Authorization (or NDC, waiver) and City of Tempe permits are on-site.
- Confirm compliance with the city's stormwater ordinance.

After notification from the contractor/developer that work is to begin, a pre-construction meeting is scheduled. It is verified by inspection staff that the contractor/developer has obtained grading and drainage permits prior to holding the pre-construction meeting. At the meeting, the contractor/developer is notified of drainage requirements, and that sites with a NOI must have the SWPPP available at the construction site. A construction entrance location and placement of BMPs are verified prior to the start of grading activities. Once installed, grading and drainage inspections can occur as part of any inspection by city inspections staff at the site. The BMPs generally include but are not limited to those listed in 4.7.6.

4.7.6 Stormwater Control Measures

Tempe requires all SWPPPs to implement the following design parameters, and these will be reviewed as part of the drainage plan review (per the 2015 Engineering Design Criteria page 8).

a. BMPs shall be installed and maintained in accordance with the specifications of Volume III Erosion Control of the Drainage Design Manual issued by the Flood Control District of Maricopa County (2012). Best Management Practices consist of scheduling es of activities, prohibition of practices, structural and non-structural controls, operational and maintenance procedures, control techniques or systems, design and engineering methods, and other management practices to prevent or reduce the discharge of pollutants.

b. The perimeter of the project site shall have BMPs for preventing discharges from the site. These BMPs would typically be Stabilized Construction Entrance (EC-5), Storm Wattles (SPC-1), and/ or Silt Fence (SPC-5). Storm Wattles shall be anchored by wooden stakes. Stakes shall penetrate soil a minimum of 12 inches. Stakes shall have a maximum spacing of 5 feet on center. At Storm Wattle ends, stakes shall have a maximum spacing of 12 inches.

c. Designated Washdown Areas shall be onsite and follow the specifications of the General Housekeeping Best Management Practice GH-4.

d. Onsite stockpiles shall have perimeter control BMPS installed around the stockpile. These BMPs would typically be Storm Wattles (SPC-1) and/ or Silt Fence (SPC-5).

e. Offsite storm drain inlets shall be protected by Gravel Bags (SPC-7) if upstream construction activities may result in stormwater discharges. Storm Wattles are not acceptable for offsite storm drain inlet protection.

f. BMPs for internal drainage and sediment control shall be indicated on the SWPPP. These BMPs would typically be Temporary Sediment Basins (SPC-8), Temporary Sediment Traps (SPC-9) and/ or internal drainage channels that directs storm water flows to onsite retention basins.

Listed below is a variety of practices, structural and non-structural, that the city may employ or recommend in order to control pollutants from construction sites.

Erosion Control:

- Existing vegetation preservation
- Rip rap/rock
- Erosion control blankets, geotextiles, etc.
- Permanent landscaping
- Diversion channel/berms
- Soil binders, hydraulic mulch, etc.
- Hydro seeding

Sediment Control BMPs:

- Slope protection (fiber rolls, slope drains)
- Sediment capture (traps, basins, netting)
- Storm sewer inlet protection (fiber rolls, wattles, drain covers)
- Stabilized entrance/track-out mitigation
- Velocity reduction (check dams, detention, swales, etc.)
- Perimeter protection (silt fence, berm, dikes/dams, etc.)

Materials Management BMPs:

- Spill prevention and control
- Fuel/chemicals storage
- Waste collection/litter control
- Stockpile management
- Concrete wash-out

4.7.7 Compliance Activities/Enforcement

If determined during a routine inspection, or an inspection in response to a complaint, that a site/project is non-compliant with the city's stormwater ordinance or with any conditions of City of Tempe permits, the Engineering Division or Development Services Division begins enforcement procedures. Upon observing a deficiency of any installed BMP, inspection staff will follow a procedure of progressive actions to assure compliance by the contractor or developer. The actions are as follows:

1. The inspector will verbally notify the superintendent of the job (owner's representative) of the observed deficiency and ask for corrective action, usually by the end of the day.
2. The inspector will issue a written notification (correction notice) stating that the verbal notification was not acted on and issuing a specific schedule for the completion of the corrective action.
3. If corrective action is not effective, the owner/developer or contractor will be notified in writing by the City Engineer for CIP projects or by the Deputy Community Development Director for private development projects. The notice, which will be sent by certified mail, will state specifically the nature of the violation and request that it be corrected. If a violation is not corrected within 30 days after the notice issuance, the City Engineer or the Deputy Community Development Director will hand over all pertinent facts to the City Attorney with a request for prosecution under the provisions of City Code Chapter 12, Article IV.
4. All inspections on the project may be held during this time.

If deficiencies cause an illicit discharge into the MS4, the city's ESS will be notified at which point enforcement pursuant to the city's stormwater ordinance may be initiated and resolved within one year of the initial inspection or violation.

4.8 POST-CONSTRUCTION

4.8.1 Municipal Employee Training

Please see Section 5.0 for employee training information.

4.8.2 Post-Construction Controls

Tempe's most effective post-construction control remains on-site retention as implemented by Tempe's Stormwater Retention Ordinance - Chapter 12, Article IV, of the Tempe City Code. This ordinance is an effective control measure by providing containment for much of the rainfall in Tempe, and accordingly limiting discharges of pollutants to Waters of the United States. Tempe's Stormwater Retention Ordinance has been in effect since 1967 and was modified in April 2004 to accommodate more dense development in and around downtown Tempe, an area designated as the Alternative Retention Criteria Area (ARCA). Outside the ARCA, all new development or substantial improvements to existing developments must provide storage of sufficient volume (on-site retention) to hold the runoff from the 100-year design storm. Inside the ARCA, new development or substantial improvements to existing developments must provide on-site retention for the two-year design storm. As the designee of the Municipal Utilities Director, the City of Tempe Engineering and Transportation Director may waive the two-year requirement within the ARCA, if equivalent best management practices for on-site pollutant removal are implemented.

Tempe will continue to implement the requirement for new facilities to install and maintain on-site retention for a 100-year, 2-hour storm event in all areas of Tempe, except Alternative Retention Criteria Areas (ARCA), areas exempted by law, or areas excluded under the technical appeals process. When possible, the city will require such exempt facilities to install stormwater control measures.

Tempe is required within the first year of the permit term to evaluate and document three areas contributing to SWQS exceedances within the MS4 on which the city will perform a retrofit feasibility assessment by the end of year four of the permit. Tempe will review its stormwater drainage areas, monitoring locations and documentation included in the Tempe Area Drainage Master Study (ADMS) to select the three areas.

4.8.3 Compliance Activities/Enforcement

4.8.3.1 Ongoing Post-Construction Requirement

Tempe will develop and implement an ongoing program for tacking inventory, inspections and maintenance of post-construction stormwater BMPs during the permit term 2021-2026.

4.8.3.2 First Year Post-Construction Inspection

Post-construction inspections are conducted on at least 90% of all permitted CIP, residential and commercial projects that result in a land disturbance of one acre or more, and those that disturb less than one acre but are part of a larger common plan of development. This post-construction inspection will generally occur shortly after construction is complete or as a part of the warranty period inspection which occurs within a year after completion of construction for CIP projects. The inspection provides an opportunity to identify if corrective actions need to be implemented by the developer or responsible contractor for a variety of items, including permanent stormwater and/or drainage controls.

During the first-year post construction inspection controls must meet 80% of their BMP design standard for detention, retention or treatment. If determined during the warranty or final inspection that a site/project is non-compliant with the 80% BMP design standard or the city's stormwater ordinance, the Engineering Division or Development Services Division begins enforcement procedures. Upon observing a deficiency of any installed retention areas, inspection staff will follow a procedure of progressive actions to assure compliance by the owner/developer or contractor. The actions are as follows:

1. The inspector will issue a written notification (correction notice) for the completion of the corrective action.
2. If corrective action is not effective, the owner/developer or contractor will be notified in writing by the City Engineer for CIP projects or by the Deputy Community Development Director for private development projects. The notice, which will be sent by certified mail, will state specifically the nature of the violation and request that it be corrected. If a violation is not corrected within 30 days after the notice issuance, the City Engineer or the Deputy Community Development Director will hand over all pertinent facts to the City Attorney with a request for prosecution under the provisions of City Code Chapter 12, Article IV.

If deficiencies have potential to cause an illicit discharge into the MS4, the city's ESS will be notified, at which point enforcement pursuant to the city's stormwater ordinance and ERP may be initiated.

Post-construction or permanent controls may also apply to City-owned parcels. The following is a list of those most frequently used stormwater control features. Stormwater controls can utilize one feature or a combination of several features. These control features will be examined during post-construction site inspections for which NOIs were required.

- Surface retention basin
- Underground stormwater retention
- Storm drainpipe
- Catch basin or scupper
- Drywell, with or without an interceptor chamber
- Oil stop structure
- Rip rap

Tempe's Community Development Department will not issue a certificate of occupancy to an owner/developer until notification, from the Deputy Community Development Director, is received indicating that a drainage plan and on-site grading and drainage improvements are in compliance with Chapter 12, Article IV, of the Tempe City Code. In addition, the Deputy Community Development Director will not issue certification unless a project provides the required retention or unless the project is in the ARCA and the Engineering and Transportation Deputy Director has approved alternative on-site pollutant removal BMPs. Sections 12-71 and 12-73 of Tempe's on-site retention ordinances contain the administrative requirements that ensure implementation of this program.

5.0 Stormwater Training Program

Tempe has developed a comprehensive stormwater training program to address Permit requirements. This training is divided into five distinct categories and is designed to disseminate applicable stormwater information to Tempe employees that hold varying stormwater program responsibilities. The categories of training are as follows:

- General Permit Training
- Environmental Compliance Inspector Training (IDDE, Industrial and Commercial)
- Municipal Facility Training
- Construction/Post-Construction Training
- Stormwater Pollution Awareness

5.1 Illicit Discharge Detection and Elimination/Industrial and Commercial Facilities (non-Municipally owned)

Tempe Environmental Compliance Inspectors are directly involved with, and hold direct responsibilities pertaining to, many aspects of the stormwater program. Tempe provides new inspectors training within the first year of employment and provides refresher training for existing inspectors at least once every two years. This training may be conducted internally or by an external vendor. Training for all inspectors includes, but is not limited to, topics outlined in Table 7.

Table 7: Environmental Compliance Inspector Training

Topics	
Legal requirements	Industrial/Commercial Inspections
IDDE	Outfall Inspections
Call-out procedures	Investigations
Field Screening	Non-Stormwater Discharges
Municipal Facility requirements	Stormwater Pollution Awareness
Enforcement	DeMinimis Discharges

5.2 Municipal Facility Training

Various Tempe employees with and with no direct stormwater responsibilities receive routine stormwater training. Tempe has developed a training program designed to reach selected groups of employees that could provide benefit as a result of this training. These groups include, but are not limited to, most field staff employees. Training is provided to employees in the following city sections:

- Water Operations - Utility Services
- Water Operations - Field Facilities
- Parks and Recreation Maintenance
- Transportation maintenance / Transit Operations sections
- Field Operations - Solid Waste
- Facilities Maintenance
- Custodial Services
- Fire and Medical Rescue

Tempe provides this training internally within the first year of employment for employees with direct stormwater responsibilities and provides refresher training for existing employees

at least once every two years. Follow-up training will be provided as needed to address changes in procedures, techniques, requirements or staffing.

These training events include, but are not limited to, topics outlined in Table 8.

Table 8: Municipal Facility Training

Topics	
Importance of protecting water quality	Pollutants and sources of pollutants
Operation and maintenance standards	Selecting appropriate BMPs
Job activities to prevent or minimize impacts to water quality	Identifying and reporting illicit discharges
Inspection procedures	

5.3 Construction/Post-Construction Training

Tempe's staff with stormwater responsibilities in the Engineering and Development Services Divisions receive stormwater training within the first year of employment and refresher training for existing inspectors at least once every two years. CIP and private development sections are both trained on similar topics, which include topics outlined in Table 9.

Table 9: Construction / Post Construction Training

Site Plan Review	Inspection Staff
Grading and Drainage Design Standards	Municipal ordinances related to stormwater and post construction
Municipal Ordinances Related to Stormwater and Post Construction	Requirements for structural stormwater control practices in new development and redevelopment
Requirements for Structural and Non-structural management practices in new development and redevelopment	Maintenance responsibilities through agreements and policies
Post-construction Stormwater Controls	Inspection procedures
	Enforcement procedures