CITY OF TEMPE

2015-2016

ANNUAL PHASE I MS4 REPORT

As Prescribed by AZPDES Permit No. AZS000005-2010 Appendix B

September 2016

Prepared by the City of Tempe
Public Works Department
Water Utilities Division
Environmental Services Section
Regulatory Compliance Group

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1. General Information

A. Name of Permittee

City of Tempe

B. Permit Number

AZPDES Permit No. AZS000005-2010

C. Reporting Period

July 1, 2015 – June 30, 2016

D. Stormwater Management Program Contact

Name	Justin Bern
Title	Environmental Program Supervisor
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Fax Number	N/A
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E. Certifying Official

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2. Annual Report Certification

The Annual Report Form (ARF) must be signed and certified by either a principal executive officer or ranking elected official; or by a "duly authorized representative" of that person in accordance with Sections 9.2 and 9.12 of the Permit.

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering 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 fine and imprisonment for knowing violations.

Certifying Official

Date

3. Narrative Summary of Stormwater Management Program Activities Report

This section provides a status summary addressing stormwater management program activities required by AZPDES Permit No. AZS000005-2010 (Permit). Included is a brief description of program or activity implementation and progress or challenges, where applicable, in each area during the reporting year. If applicable, any significant developments or changes to the number or type of activities, frequency or schedule of activities, or the priorities or procedures for specific management practices are explained. This section includes wording required by Appendix B of the Permit and additional information provided by Tempe.

A. Public Awareness Activities Including Outreach

Tempe Activities

Tempe has surpassed minimum Permit requirements outlined in Appendix A, Sections I.A and I.B, by coordinating and participating in many public and business sector awareness and outreach activities. During the 2015-2016 reporting year, Tempe reached nine target groups totalling approximately 292,609 people and/or businesses while covering a wide array of stormwater topics. The significant increase in the number of people reached, above the 2014-2015 estimated reach of 194,668, is due to increased messaging in Tempe newsletters such as Tempe Today. In some cases this number includes the same audience, though the stormwater message varies (e.g., Tempe resident messages through *Tempe Today* articles and Tempe businesses through *E-Bulletin* distribution). Table 1 summarizes events, topics, estimated numbers of people reached (where possible), numbers and types of materials distributed, and target groups. Examples of outreach materials, brochures, articles, and E-Bulletins are included as **Attachment A**.

Table 1: Summary of Public Awareness Activities and Outreach

Outreach Events	Date	Topic(s)	Number of People or Businesses Reached	Number and Type of Materials Distributed	Target Groups
Industrial Facilities, Restaurants	All Year	Stormwater information for industrial, commercial facilities and restaurants	227	BMP brochures and FOG information given to industrial facilities/restaurants during inspections	Industrial, Commercial Businesses
Municipal Facilities	All Year	Stormwater information for residents	350	BMP brochures on Home repair, Yard & Garden, Pool, Pet waste, Auto and Storm Drain distributed to 14 Municipal Facilities	General Public, Residents

Tempe Today Article	Jul-15	Monsoon Preparation and Stormwater tips	44,000	Article in Tempe Today inserted into water bills and posted on website	General Public, Residents, Industrial, Commercial Businesses
Tempe Today Article	Aug-15	Link to Monsoon Preparation and Stormwater tips	44,000	Article in Tempe Today inserted into water bills and posted on website	General Public, Residents, Industrial, Commercial Businesses
E-Bulletin (3Q2015)	Aug-15	UST storage regulation, Commercial Stormwater Inspections, Stormwater Program information	114	Environmental Bulletins via E-mail and Posted to Website	Commercial, Industrial Businesses
Connecting Tempe	Oct-15	Zero Waste Event	12,000	Article about special waste collection event. All items will be recycled, reused or disposed of in an environmentally safe manner.	General Public, Residents
North Tempe Neighborhood Environmental Fair	Oct-15	Stormwater information for Residents	67	Home repair, Yard & Garden, Pet waste, Pools, FOG, Copper Auto repair BMP's distributed. Pet waste bags.	General Public, Residents, HOA
Tempe Today Article	Nov-15	Recycle Cooking grease, Zero Waste Event 11/14/15, Adopt- A…	44,000	Article in Tempe Today inserted into water bills and posted on website	General Public, Residents, Industrial, Commercial Businesses
E-Bulletin (4Q2015)	Nov-15	No exposure exclusions for MSGP and Stormwater Tips	114	Environmental Bulletins via E-mail and Posted to Website	Commercial, Industrial Businesses
Tempe Arts Festival	Dec-15	Stormwater information for residents SWMP available for feedback	901	Home repair, Yard & Garden, Pet waste, Pools, FOG, Copper Auto repair BMP's distributed. Pet waste bags.	General Public, Residents, Downtown Visitors
Urban Gardening Event	Feb-16	Stormwater information for residents	112	Home repair, Yard & Garden, Pet waste, Pools, FOG, Copper Auto repair BMP's distributed. Pet waste bags.	General Public, Residents
Tempe Today Article	Mar-16	Zero Waste event 4/16/16	44,000	Article in Tempe Today inserted into water bills and	General Public, Residents, Industrial,

				posted on website	Commercial Businesses
E-Bulletin (1Q2016)	Mar-16	Stormwater MSGP permit STORM Conf. and Stormwater Program information	158	Environmental Bulletins via E-mail and Posted to Website	Commercial, Industrial Businesses
Geek's Night Out	Mar-16	Stormwater information for residents	300	Home repair, Yard & Garden, Pet waste, pools, FOG, Copper Auto repair BMP's distributed. Pet waste bags.	General Public, Residents, Schools
Tempe Arts Festival	Apr-16	Stormwater information for residents SWMP available for feedback	386	Home repair, Yard & Garden, Pet waste, Pools, FOG, Copper Auto repair BMP's distributed. Pet waste bags.	General Public, Residents, Downtown Visitors
Connecting Tempe	Apr-16	Zero Waste Event	12,000	Article about special waste collection event. All items will be recycled, reused or disposed of in an environmentally safe manner.	General Public, Residents
Tempe Today Article	May-16	RX Disposal	44,000	Article in Tempe Today inserted into water bills and posted on website	General Public, Residents, Industrial, Commercial Businesses
Tempe Town Lake Reopening	May-16	Stormwater information for residents	124	Home repair, Yard & Garden, Pet waste, Pools, FOG, Copper Auto repair BMP's distributed.	General Public, Residents, TTL Visitors
Tempe Today Article	Jun-16	Monsoon Preparation and Stormwater tips	44,000	Article in Tempe Today inserted into water bills and posted on website	General Public, Residents, Industrial, Commercial Businesses
Monsoon Preparation Event	Jun-16	Monsoon Preparation and Stormwater Pollution tips	3	Stormwater pollution prevention brochures and pet waste bags distributed.	Residents
Downtown/ Tempe Business Outreach	Jun-16	Stormwater Awareness	52	Distributed Stormwater Awareness Flyers to total of 52 Tempe Businesses, Restaurants. Specifically, 41	Commercial Businesses, Restaurants, Downtown Tempe Businesses

				Businesses, Restaurants in Downtown Tempe	
Social Media	Jun-16	Pet waste	1,565	Pick up pet waste to prevent stormwater pollution	General Public, Residents
Tempe Channel 11 Video Broadcast	3-5 x week Mar-Jun 2016	Stormwater pollution prevention information	26,161 *	Video on Stormwater pollution prevention Information	General Public, Residents
			292,609	**Estimated annual total of people or businesses reached through 23 awareness and outreach activities**	

*Tempe Channel 11 viewership numbers were not included in the total numbers reached since viewership could not me measured. Tempe Channel 11 has 26,161 subscribers, an unknown portion of whom were reached by the video.

Regional Activities

- Since the beginning of 2012, Tempe Environmental Services has coordinated and hosted quarterly Arizona Phase I MS4 Coalition Meetings. These meeting are an opportunity for Arizona Phase I municipalities to discuss program challenges, successes, innovations, and experiences. These meetings also allow for a more consistent understanding and implementation of the MS4 program statewide.

- The City of Tempe is an active member of Stormwater Outreach for Regional Municipalities, known as STORM. STORM is a regional organization promoting stormwater quality education within the greater Phoenix metropolitan area. STORM was founded in 2002 in response to regulations requiring municipalities to implement measures to educate the public on ways to protect the quality of stormwater runoff. Benefits for the region include increased public awareness of the impacts of stormwater pollution, shared experience and knowledge, pooled financial resources to address concerns common to all communities, protected environments, and improved quality of life.

  In December 2005, STORM filed for not-for-profit status with the Arizona Corporation Commission. The trade names "STormwater Outreach for Regional Municipalities (STORM)" and "STORM" were filed with the Secretary of State. STORM officially became a not-for-profit charitable organization in February 2006 and developed a set of bylaws to guide the organization. This status allows STORM to operate as a charitable organization and enables tax deductible contributions to promote stormwater pollution prevention.

  The purpose of STORM is to provide a platform for collaborative effort by which educational outreach may be provided to residents in the greater Phoenix area with the

message of pollution prevention to keep our waters clean. In Fiscal Year 2016, STORM took great strides to increase its outreach ability, use innovation to address its audiences, and collaboration to espouse a regional method.

The STORM organization is composed of and benefits small, medium and large municipalities throughout the greater Phoenix metropolitan area. It has brought together the experience and resources of Phase I MS4s, including Phoenix, Mesa, Tempe, Glendale, Scottsdale and Arizona Department of Transportation (ADOT) with Phase II MS4s of Apache Junction, Avondale, Buckeye, Casa Grande, Chandler, El Mirage, Flood Control District of Maricopa County (FCDMC), Fountain Hills, Gilbert, Goodyear, Guadalupe, Litchfield Park, Luke Air Force Base, Maricopa County, Paradise Valley, Peoria, Pinal County, Queen Creek, Surprise, and Tolleson. A Tempe representative regularly attends the monthly STORM meetings. Additionally, as of June 2016, Tempe has a representative on the STORM Board of Directors allowing the city to directly shape the future of this regional organization.

Key STORM accomplishments for fiscal year 2015-2016 include the following:

- STORM made an agreement with Solarflare digital to assist with maintaining our website, and STORM members altered the website to make it more usable. As a result, our website has recorded a total of 2,800 unique guests, with a total of 3,900 sessions, and 10,000 pages viewed.

- STORM made an agreement with Bear Essential News to post stormwater ads in newspapers that are distributed throughout the Phoenix area for an estimated 700,000 views.

- STORM made an agreement with Clear Channel Outdoor to post stormwater ads on billboards throughout the region for the months of July and August creating a total of 30 Million impressions.

- STORM made an agreement with National CineMedia for educational stormwater movie ads reaching over 3.8 Million movie goers.

- STORM made an agreement and was involved in significant planning activity with Environmental Education Exchange and created a middle school educational outreach book to be used in FY17.

- STORM sponsored its third Statewide Stormwater Summit for engineers, businesses, and municipalities to learn about current stormwater regulatory issues. This summit was a cooperative effort of STORM members, and with the assistance from Arizona Department of Transportation (ADOT), Pima Association of Governments (PAG), and other statewide stormwater

representatives, this was most successful summit yet with over 135 attendees. A representative from the City of Tempe was on the committee that organized this event.

- STORM held 12 monthly meetings and produced 52 educational news announcements via email to its members to encourage networking and provide important information to keep members aware of current concerns.

The Fiscal Year 2016 STORM annual report is included as **Attachment B**.

B. Public Involvement Activities Including Outreach

"Adopt-A" and Other Volunteer Programs

Tempe implements various City "Adopt-A" (street, path, park) and other volunteer programs as components of the public involvement and participation portion of the city's stormwater program. In addition to the aesthetic value of keeping roads and rights-of-way clean, the public and community service workers have helped Tempe to remove an estimated 433 bags of trash and debris that could have otherwise ended up in the MS4 system and/or subsequently a Water of the U.S. Information on Tempe's "Adopt-A" programs can be found at the website listed below.

- http://www.tempe.gov/adopt

Table 2 summarizes the number of events that occurred during the 2015-2016 reporting year, number of participants, and amount of trash removed.

Table 2: Summary of "Adopt-A" and Volunteer Involvement and Participation

Adopt Events	Number of Events	Volunteers or Community Service Workers Involved	Bags of Trash Removed
Tempe Adopt-A-Path	11	42	30
Tempe Adopt-A-Street	28	291	137
Tempe Adopt-A-Park	21	343	266
Totals	**60**	**676**	**433**

Open Meeting Events

Tempe must, at least biannually, incorporate "open meeting events" into community activities or other public events. These open forums are used for public education, input, and feedback on the city's stormwater management program and review of the Stormwater Management Plan (SWMP). Since many of Tempe's stormwater awareness and outreach

activities/events occur during community activities and/or public events and are hosted by city staff who are experienced with Tempe's program, these venues are utilized as "open meeting events." During the 2015-2016 reporting year, Tempe advertised and conducted two open meeting events at the Tempe Arts Festivals. See Table 1 for details.

Parks

Tempe's Parks Maintenance Section continues to maintain 65 "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.

Communication and Public Reporting

Tempe continues to provide the public with the opportunity to participate in the city's stormwater program by providing avenues for the reporting of spills, discharges, or illicit dumping within the community. Tempe continues to operate its stormwater hotline and web-reporting for public reporting of illegal discharges to the city's storm drain system. In an effort to consolidate city service information and contacts, Tempe utilizes a 311 system, which allows residents to call the 311 number, visit the 311 website and mobile Tempe311 app to report potential illicit discharges. A summary of public reporting can be found in Section 3.C of this report. Means of reporting are as follows:

- 480-350-2811 Stormwater Hotline
- 480-350-4311 City Hall Call Center
- http://www.tempe.gov/311
- http://www.tempe.gov/stormwater
- Tempe311 mobile app (iPhone and Android)

In addition, Tempe regularly disseminates the general Environmental Services Section phone number and stormwater webpage for purposes of allowing public discussion of stormwater issues and providing copies of stormwater material and the most current SWMP. The general contact number and program information location are as follows:

- 480-350-2678
- http://www.tempe.gov/stormwater

Participation is encouraged during outreach events and public awareness activities, and contact information is provided with all outreach materials. See Section 3.A of this report for a detailed listing of outreach events.

Household Products Collection Center

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 to prevent possible stormwater pollution. Materials commonly collected at the facility include e-waste, 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 on the proper handling and disposal of household waste, is available at:

- http://www.tempe.gov/householdproducts

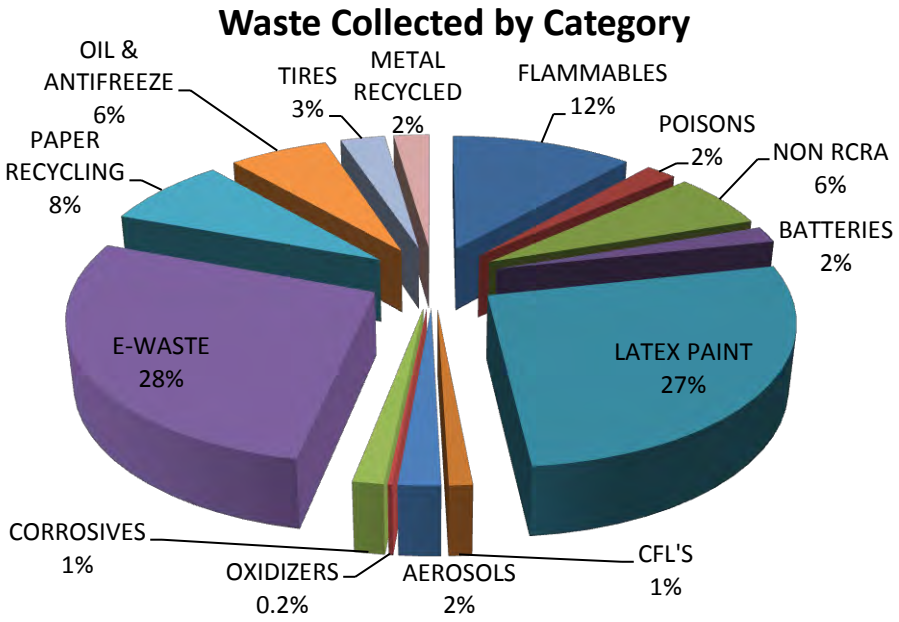
In reporting year 2015-2016, HPCC advertised and hosted two special Zero Waste Events. The first event was in November 2015 the other was in April 2016. The events had 550 and 521 vehicles, respectively; pass through the center to dispose of household hazardous materials. These special events are included in the summary below.

Table 3 summarizes HPCC events during the 2015-2016 reporting year.

Table 3: Summary of HPCC Activities

Number of Days Open to the Public	Number of People that Utilized HPCC Services	Amount of Household Hazardous Waste Collected
104	12,726	351,713 pounds

Below is a breakdown of waste collected, of which 86% was recycled.



Tempe Grease Cooperative

In 2014, Tempe launched the Tempe Grease Cooperative (TGC), an innovative voluntary program between the City of Tempe and its restaurants to better manage fats, oils and grease (FOG). In the program, Tempe brokers both pricing and service quality for grease trap and interceptor maintenance on behalf of community restaurants and food service establishments. Proper cleaning and maintenance of grease traps and interceptors helps prevent backups potentially reducing sanitary sewer overflows which could enter the MS4. The partnership is a gateway to open communications between businesses and Tempe's Environmental Services Section and fosters compliance with several environmental programs including stormwater. Because of their potential to impact the MS4, restaurants are identified as a priority for commercial inspections. Seventy restaurants enrolled during the July 2015-June 2016 reporting year. This was an increase over the 65 enrollments during the July 2014-June 2015 reporting year.

C. Illicit Discharge Detection and Elimination (IDDE) Program Activities

Tempe's Illicit Discharge Detection and Elimination (IDDE) program consists of several components designed to educate, involve, and solicit participation from City employees and the public, proactively prevent illicit discharges, and detect and eliminate illicit discharges. Below is a summary of these IDDE program components:

Training

During the 2015-2016 reporting year, Tempe maintained a staff of seven Environmental Compliance Inspectors (ECI), four Water Quality Specialists (WQS), two Environmental Compliance Supervisors (ECS), an Environmental Quality Specialist (EQS) and an Environmental Program Supervisor (EPS) with direct stormwater responsibilities. All inspectors are cross-trained in pretreatment, cross-connection control, and stormwater inspections. During the 2015-2016 reporting year, stormwater training for this group consisted of several training events. One internal training event was attended by 15 employees (seven ECIs three EQSs, two ECSs, and three WQSs). Two external training events for Certified Stormwater Inspector training were attended by two employees new to the stormwater program (one ECI and one EQS). These same two employees attended two additional external training events with stormwater components. One final external training session was attended by three ECIs, one ECS, an EQS, and an EPS.

External trainings focused on IDDE components, inspections, tracking, enforcement, and overall program management of a MS4. Internal training focused on pollution prevention, Tempe Code, spill management, handling, storage, and transportation of used oil & other toxic/hazardous materials. Training also included permit requirements such as identifying, reporting and tracking illicit, non-stormwater discharges and field practices, commercial inspections and various Certified Stormwater Inspector training topics.

As an efficiency measure, Tempe's WQSs were assigned to conduct outfall screening beginning in the 2013-2014 reporting year. Accordingly, WQSs and their ECS also received IDDE training during the 2015-2016 reporting year.

Of the 278[1] Tempe employees who received training during the 2015-2016 reporting year, approximately 252 non-Environmental Services field employees received site specific Municipal Facility training that included the identification and reporting of illicit and non-stormwater discharges. IDDE topics were discussed during these Municipal Facility training events, though are not specifically categorized as IDDE training for purposes of this report. See Section 3.K of this report for a summary of training events, number of employees trained, and topics discussed. See **Attachment C** for copies of training sign-in sheets.

These Tempe employees, many of whom work in the field, have been specifically trained to contact Tempe's Environmental Services Section in the event that a potentially illicit discharge is identified.

Outreach – Pollution Prevention

Tempe continues to implement a comprehensive outreach program that conveys a message of pollution prevention and encourages the reporting of illicit discharges or other potential sources of stormwater pollution. For details about this program, please see Sections 3.A and 3.B of this report.

Infrastructure Inspection and Maintenance

One of Tempe's most proactive IDDE measures is the inspection and cleaning of municipal stormwater infrastructure. These activities are divided between five City workgroups: Environmental Services, Parks Maintenance, Streets, Water Engineering, and Water Operations. Each section maintains responsibilities for various aspects of stormwater infrastructure inspection and cleaning. Note that infrastructure is not limited to catch basins, but 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 further in this section. Environmental Services maintains contracts for infrastructure cleaning services.

- Environmental Compliance Inspectors continue to conduct Alternative Retention Criteria Area (ARCA) catch basin inspections after large downtown events such as 4th of July festivities and the New Year's Eve Block Party. See Section 3.G of this report for a description of the ARCA. During the 2015-2016 reporting year, two ARCA area catch basin inspection events occurred. As a result, 37 catch basins were

[1] Number includes employees that may have attended more than one training event.

inspected, none of which required referral for cleaning, and these are included in Table 4 under Environmental Services infrastructure cleaned.

Environmental Compliance Inspectors also conducted 78 additional infrastructure inspections in other sections of the city as a result of calls or complaints. Many of these inspections resulted in the deployment of cleaning measures.

A numeric summary of infrastructure inspection and cleaning events can be found in Table 4 of this section. Inspection forms, narratives, and other inspection related information are included as **Attachment D**. A summary of contracted cleaning events is included as **Attachment E**.

- Tempe's Parks Maintenance Section provides routine maintenance for various parks, retention areas, public common areas, public open areas, and recreational areas throughout the city. During routine visits to each of these facilities, cursory inspections are conducted of stormwater infrastructure. Detailed inspections are conducted annually. During the 2015-2016 reporting year, the Tempe Parks Maintenance Section inspected 282 pieces of city stormwater infrastructure including catch basins, inlet structures, drywells, bubbler boxes, and retention basins. Fifty-six of the 282 inspected stormwater assets were referred for cleaning. Cleaning referrals are verified before contracted cleaning services are scheduled. If the structure only requires minor debris pick-up it may be performed by city staff. A numeric summary of inspections and contracted cleaning events can be found in Table 4. Inspection forms are included as **Attachment F**. A summary of contracted cleaning events is included as **Attachment E**.

- Tempe's Street Maintenance Section is tasked with the maintenance and cleaning of Tempe streets and various other MS4 components, including street sweeping and routine infrastructure inspections. To reduce the amount of debris entering the MS4, Tempe continues to implement an effective street sweeping program using the following schedule (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 and large City facility schedules vary upon condition.
    - Upon request (e.g., water main breaks, emergency road repairs, trackout, special events, etc.).

  During the 2015-2016 reporting year, Tempe cleaned approximately 21,888 linear miles of streets effectively removing approximately 1007 tons of debris. A numeric summary of these events can be found in Table 4.

Streets Maintenance also conducts visual inspections of catch basins and other similar infrastructure. During the 2015-2016 reporting year, this section completed inspections of 105 catch basins along 100 miles of Tempe owned and maintained roadway. Of the 105 catch basins inspected, none were referred for cleaning. A numeric summary of these events can be found in Table 4. Inspection forms are included as **Attachment G**.

In addition to the inspections and cleaning outlined above, two additional street programs are used to conduct infrastructure inspections. Structures located on arterial roadways are inspected as part of the city's right-of-way weed control program and structures located on streets other than arterials are inspected as part of the city's street sweeping program. These inspections are not specifically documented unless further detailed inspection or cleaning is deemed necessary.

- Tempe's Water Utilities Division, Water Engineering Section, currently operates one sanitary sewer closed-circuit television (CCTV) crew. As a component of the MS4 program, this crew is available to conduct underground infrastructure inspections for any of the above-listed Tempe work groups. This crew also conducts MS4 CCTV inspections. During the 2015-2016 reporting year, Tempe inspected 8,668 feet (1.64 miles) of underground MS4 conveyance as well as one additional infrastructure inspection at the request of Environmental Services. Inspection records are included as **Attachment H**. Areas of debris identified as a result of these inspections were referred for cleaning. Linear mileage cleaned, debris removed, and CCTV activities are summarized in Table 4. At the end of the 2015-2016 reporting year, the CCTV group transferred to the Water Operations Section.

- Tempe's Water Utilities Division, Water Operations Section is responsible for the operation and maintenance of Tempe's water, wastewater, and raw water irrigation infrastructure. On occasion, this section is requested to perform unique stormwater-related cleaning or maintenance activities. During the 2015-2016 reporting year, this section was called upon to inspect, clean, repair, locate stormwater infrastructure and haul stormwater material for disposal. Drywell repairs were conducted at Svob and Esquer Parks. Cleaning and inspections were conducted at Hanger Park.

  Tempe City Council approved the addition of two vehicles and three staff members for stormwater infrastructure inspection, cleaning and maintenance. Over the next fiscal year, the section will be developing an implementation plan for these new program resources.

Table 4: Summary of MS4 Infrastructure Inspections and Cleaning

Location/Description	Infrastructure Inspected		Infrastructure Cleaned		Amount of Debris Removed
	Number	Miles	Number	Miles	Tons
ARCA	37	-	-	-	24
Environmental Services (other)	78	-	62	0.66	
Parks/Common and Rec. Areas	282	-	-	-	
Streets (excluding street sweeping)	105	100	-	-	
Pipe (CCTV)	1	1.64	-	-	
Water Operations	-	-	1	-	
Streets (including street sweeping)	-	-	-	21,888	1,007
Totals	**503**	**102**	**63**	**21,889**	**1031**

Note: Infrastructure includes catch basins, drywells, bubbler boxes, inlet structures, streets, conveyance pipes, etc. All previously mentioned cleanings are included in the Environmental Services count. Referral for cleaning numbers may not match the number of structures cleaned due to verification process for in-house cleaning and contractor service schedule.

Call-Outs

Tempe's Stormwater Permit requires that the city respond to at least 90 percent of all reported illicit discharges and investigate at least 80 percent of potential illicit discharges reported by the public within three days of report. Of the 78 call-outs that Tempe's Environmental Services Section received, 61 were either directly or indirectly related to stormwater concerns. All calls were responded to and investigated. Note that some of the "call outs" were preventative inspections. A summary of all call-outs pertaining to these reports can be found in **Attachment I**. Table 5 summarizes the response and investigation percentages.

Table 5: Summary of Potential Illicit Discharge Reports

Reports (hotline, web form, other calls)	Reports Responded To	Percent Responded To	Reports Investigated	Percent Investigated
61	61	100	61	100

Inspections – Municipal, Industrial, Commercial, Outfall

Tempe's stormwater inspection program for municipal, industrial, and commercial facilities is an important component of the IDDE program. Aside from identifying and eliminating discharges, these inspections compel the use of stormwater Best Management Practices (BMPs), bring awareness to stormwater pollution issues, and ultimately prevent the occurrence of illicit discharges that could impact the MS4 or receiving waters. These specific programs are further summarized in Sections 3.D and 3.E of this report. Tempe's outfall

inspection program also serves as an important component of this program. This program is further summarized in Section 3.H of this report.

IDDE Screening Program, Investigations, Identified Sources, and Corrective or Enforcement Actions

Tempe's IDDE screening program can be initiated by notifications from persons participating in any of the previously listed components (e.g., public notifications, field staff notifications, inspections, etc.). Tempe responds to all reported discharges, regardless of the source, to determine whether they are illicit discharges, and initiates investigation of these discharges within three business days of detection or report. Discharges known to not be a significant source of pollutants or otherwise exempt are not subject to further investigation. If a discharge is found to be illicit, corrective actions, including enforcement mechanisms, are used to eliminate the illicit discharge. Identified wastewater discharges, such as raw sewage or grease, are immediately investigated and eliminated as quickly as possible. Discharges found to not be a significant source of pollutants, exempt from CWA discharge provisions, or permitted under an ADEQ AZPDES permit are not necessarily investigated each time they are identified (e.g. irrigation water, tail-water, permitted De Minimis discharges).

If the source of an illicit discharge cannot be identified through physical investigations and field screening, grab samples will be collected at the outfall or field location where the prohibited discharge occurred and analyzed at a state certified lab. During the 2015-2016 reporting year, all discharges were investigated and/or identified through physical investigations and/or field screening, or characterized through laboratory analysis.

Tempe Environmental Compliance Inspectors identified the following as a result of 64 outfall inspections, 125 industrial/commercial inspections, 104 restaurant inspections, and 61 call-outs:

- Four outfall discharges from three outfalls were determined to not be sources of pollutants (GD-01, SR-07, KP-01). Discharges from one outfall (SR-18) are under investigation/enforcement. Further information can be found in Section 3.H of this report.

- Five potential or actual illicit discharges to the MS4 resulted in the issuance of official violation/warning letters to a combination of residential and commercial businesses. Enforcement documents are in **Attachment J**. Note that violation/warnings are issued in accordance with Tempe's Enforcement Response Plan and points are assessed to the discharger. See **Attachment K** for the plan details.

Table 6 summarizes the Environmental Services Section's non-municipal inspections and findings.

Table 6: Environmental Services Non-Municipal Facility Inspection Summary

Inspection Type	Number of Inspections	Official Findings/Enforcement
Outfalls	64	Four dry weather flows from three outfalls (determined to not be a significant source of pollutants.) One outfall remains under investigation/ enforcement due to dry weather flows
Industrial/Commercial (non-restaurant)	125	Four Violation/Warning Letters
Restaurant	104	
Call-Out (stormwater)	61	
Catch Basins and Other Infrastructure	115	62 Infrastructure Cleaning Events
Total	**469**	

D. Municipal Facilities

Inventory

The total number of Municipal Facilities is 149. A list of facilities and a map of general facility locations is maintained and kept on file with Tempe's Environmental Services Section and can be reviewed by ADEQ upon request. This inventory is subject to change based upon internal annual reviews.

As a result of the 2012 audit described in the 2011-2012 annual report, all facilities were reviewed for potential reclassification to allow for a stronger emphasis on sediment control, storage practices, site activities, and general housekeeping. Ranking criteria was modified to accommodate this focus, but no changes were made in facility classifications because impacted facilities were already classified at a higher level. During 2015-2016, one new facility was added to the inventory - Tempe Town Lake Dam (priority #2). One priority #2 facility, Clark Pool, was removed from the list as it has been demolished to construct a new community garden that will become part of the Clark Park facility. Table 7 summarizes the Municipal Facility inventory prioritization.

Table 7: Summary of Priority Municipal Facilities

Department/ Division	Priority #1 Facilities	Priority #2 Facilities	Priority #3 Facilities	Number of Facilities
Public Works -Water	3	12	18	33
Fire	1	8	1	10
Parks	4	3	57	64
Community Services	0	5	11	16
Transportation	1	2	3	6
Police	0	4	1	5

Table 7: Summary of Priority Municipal Facilities

Public Works-Other	3	0	0	3
Miscellaneous	0	3	9	12
Totals	**12**	**37**	**100**	**149**

All Priority #1 facilities are on a biannual inspection schedule. Priority #2 facilities are inspected every three years and Priority #3 facilities are inspected every five years. New facilities and those with significant changes in purpose and/or inventory will be inspected as they come on line or change.

Inspections

Consistent with Tempe's Municipal Facility Stormwater Inspection Program, Tempe inspected and prioritized all 149 sites over the previous reporting years. In the 2015-2016 reporting year, 70 inspections were conducted at 61 facilities.

Table 8 summarizes all 2015-2016 inspection activities. Inspection reports can be found in **Attachment L**.

Table 8: Summary of Municipal Facility Inspections

Facility type/ inspection frequency	Number of Facilities	Number of Facilities Inspected	Number of Facility Inspections	Percent Inspected
Priority 1	12	11	17	92
Priority 2	37	10	13	27
Priority 3	100	40	40	40
Totals	**149**	**61**	**70**	**41**

Results

Results and/or activities and control measures implemented as a result of the 70 inspections conducted in the 2015-2016 reporting year are as follows:

- There were no significant findings and no follow up actions required, other than described below, for the 70 inspections conducted this reporting year.

- All inspected facilities storing a single container exceeding five gallons of a hazardous material post or maintain documentation of practices and procedures designed to prevent and respond to spills that have potential to come into contact with stormwater. See **Attachment M**. These practices are in addition to Tempe's Hazardous Waste Management Plan (HWMP), found in **Attachment N**, which

requires the proper handling, storage, transport and disposal of hazardous wastes associated with municipal operations and facilities.

- During facility inspections, basic stormwater awareness and housekeeping practices are discussed with facility representatives. These discussions are separate and in addition to formalized stormwater training.

- Parks staff requested more frequent inspection of facilities as a follow up to ensure that BMP implementations were being maintained at Priority 1 and 2 facilities.

- The Kyrene Utilities Facility continued to have issues with the site's equipment wash area being overwhelmed with sediment from field operations. Short term measures were put into place until an expanded facility can be designed and constructed. Ground was broken in June of 2016 at the South Tempe Water Treatment Plant for a new field spoils drying and disposal processing operation. In August of 2016, the construction was completed and operations started.

Chemical Handling, Storage, Disposal Practices, and Spills

Several Permit sections require various plans, documents, or procedures to ensure the proper handling, storage, and disposal of chemicals and effective response to chemical spills. Tempe's efforts in this area involve several 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 all initial 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. During these inspections, facility chemical storage practices are reviewed from an environmental protection perspective. 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. This document was designed to provide a simple, easy-to-read message of proper chemical handling, storage, disposal, and spill response practices. It was developed by representatives from Environmental Services, Risk Management, and HPCC. This document is included as **Attachment M**.

  One municipal facility spill incident was reported to the Environmental Services Section during the 2015-2016 reporting year. On September 18, 2015, a small non-hazardous spill of powder activated carbon (PAC) occurred during delivery at the

South Tempe Water Treatment facility. The spill occurred on concrete, paved and gravel surfaces. The spill occurred during delivery when the vendor did not properly secure the delivery mechanism for the transfer of the PAC. Total volume of the spill was estimated to be approximately 10 gallons. The spilled material was swept away from the hard surfaces and washed from the gravel into an impoundment area. Measures have been taken to prevent further spills during delivery. All internal spill reporting procedures were followed, which allowed for quick response.

Tempe's Environmental Services Section is also responsible for most city-wide MS4 stormwater training. This training includes proper chemical handling, storage, disposal, and spill response practices. See Section 3.K for a summary of training events.

- **Household Products Collection Center (HPCC)**

HPCC staff provides various levels of support for all aspects of chemical handling, storage, disposal, and spill response practices. The HPCC is a city-wide liaison for the acquisition of necessary spill prevention and response equipment and Tempe's in-house facility for the disposal of chemical wastes. The HPCC staff also maintains Tempe's Hazardous Waste Management Plan (HWMP). The HWMP was updated in 2011 to include practices to minimize exposure of hazardous waste to precipitation. The Plan was most recently updated in 2014. This year a review was conducted by Tempe's Hazardous Waste Compliance Supervisor and an Environmental Quality Specialist (EQS) from Environmental Services. The HWMP is included as **Attachment N**. In addition to these responsibilities, HPCC staff provided assistance with various municipal facility stormwater BMP needs during the 2015-2016 reporting year.

- **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 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 substances. Risk Management provides annual eight-hour HazWoper training to WQSs and ECIs.

- **Fire Department**

  The Tempe Fire 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 Department's Hazardous Materials Policy addresses containment of hazardous materials as a critical component of spill response procedures.

Pesticides, Herbicides, and Fertilizers

- Tempe has significantly reduced the amount of pesticides and herbicides used by employing integrated pest management practices. However, when pesticide and/or herbicide use is needed, established application BMPs are implemented. These practices were developed by Tempe-certified applicators and Tempe's Environmental Services Section in 2011. A copy of this plan is included as **Attachment O**. The plan is reviewed annually by a Parks Maintenance Section representative.
- Tempe's Parks Maintenance Section applies fertilizer to city parks during the growing season using calibrated broadcast spreaders. Application rates are based on recommendations from the University of Arizona Cooperative Extension Turf Grass Research Facility. Soil and tissue analyses are periodically used to confirm or modify application rates. Currently, some parks and the city golf courses can inject liquid fertilizers through programmable irrigation controllers. When fertilizer is applied in this manner, it is done in small applications over several days to reduce or eliminate chemical run-off. In some turf areas, aeration methods are used which allow for better infiltration of water, fertilizers, chemicals, and soil amendments. In addition, all City of Tempe pesticide applicators are licensed through the Arizona Office of Pest Management, and are required to complete Continuing Education Units (CEUs) every year, which include training on BMPs.

- Tempe maintains area-wide AZPDES Pesticide General Permit (PGP) coverage for the application of pesticides and herbicides to city-owned and operated urban lakes. Tempe does not conduct the actual application of pesticides to these water bodies; rather, applications are conducted by contracted pesticide applicators licensed through the Arizona Office of Pest Management. All contracted applicators are required to comply with PGP conditions and Tempe-specific BMPs.

Multi-Sector General Permit (MSGP) and other AZPDES Tracking

Two Tempe-owned and/or operated facilities (Priest Maintenance Yard and East Valley Bus Operations and Maintenance) currently maintain coverage under the Multi-Sector General Permit (MSGP), and two additional facilities (HPCC and Kyrene Waste Water Treatment Facility) maintain No Exposure Certifications (NECs). No other facilities to which the MSGP is

applicable have been identified. Tempe identifies facility environmental regulatory requirements when operations at an existing facility change or new facilities are constructed. Complete records for MSGP regulatory requirements are maintained onsite at each MSGP facility. Compliance tracking, for other ADEQ and EPA requirements, occurs electronically through a compliance management solution known as Intelex (http://www.intelex.com/).

Inventories and Mapping

Tempe's Permit contains a series of inventory and mapping requirements with various completion dates ranging from the submittal of the first annual report to the fourth year annual report. Table 9 summarizes Permit mapping requirements that have been met, the reporting year in which they were completed or updated, and the map title. These maps will be updated to reflect changes and Permit requirements as needed. During the 2013-2014 reporting year, the drainage basin map was updated to reflect changes at Tempe Town Lake. The Tempe Town Lake eastern dam was deflated in Q2-2013, which resulted in an expanded lake that now directly accepts flow from an outfall that previously discharged east of the lake. Additionally, recent construction on the western dam involved stormwater infrastructure modifications. As a result of these changes many of the maps listed below will be updated over the next couple of years. All maps are maintained on file with Tempe's Environmental Services Section and can be reviewed by ADEQ upon request. Note that all other inventories are addressed in their respective reporting sections.

Table 9: Summary of Mapping Status

Map Description	Reporting Year Map Completed or Updated	Map Name
Identification and mapping of Waters of the U.S. (including Tempe area canals) that may receive discharges from the MS4	2010-2011	Tempe MS4 Surface Waters
An up-to-date map or map(s) showing MS4 boundaries.	2010-2011	All Maps
An up-to-date map or map(s) showing locations where Tempe's storm sewer discharges to Waters of the U.S.	2010-2011	Tempe MS4 Monitoring and Discharge Locations, Tempe MS4 Drainage System
An up-to-date map or map(s) showing wet weather stormwater monitoring location(s) and the associated drainage basins. (Including acreage and land uses).	2010-2011	KP-01, SR-05, SR-08, TD-01, TD-03 Stormwater Monitoring Location Fact Sheets
Map of all major outfalls and other field screening points.	2011-2012	Tempe MS4 Major Outfalls
Map of facilities owned or operated by the MS4 that have the potential to discharge pollutants to Waters of the U.S.	2010-2011	Tempe MS4 Municipal Facilities
An up-to-date drainage system map.	2010-2011	Tempe MS4 Drainage System
Drainage Basins	2013-2014	Tempe MS4 Stormwater Basins
ARCA	2007-2008	Tempe ARCA

Below is a status summary of mapping capabilities required as outlined in Appendix A, Section IV.E (first measurable goal).

- **Linear Drainage Structures**

  Line layer showing the location of all stormwater system pipes and the direction of stormwater flow.

  Status: Tempe's mapping system currently maintains this capability.

- **Storm Drain Inlets and Catch Basins**

  Point layer showing the location of all storm drain inlets and catch basins.

  Status: Tempe's mapping system currently maintains this capability.

- **Outfalls**

  a) *Point layer showing the location of all outfalls.*
  b) *Polygon layer showing the drainage area associated with each of the monitored outfalls identified in Table 1 of the Permit.*

  Status: Tempe's mapping system currently maintains this capability.

- **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).

  Status: Tempe's mapping system currently maintains this capability.

- **Jurisdictional MS4 Boundary**

  Line or polygon layer showing the jurisdictional boundaries of the MS4, including any new land annexations during the Permit term.

  Status: Tempe's mapping system currently maintains this capability.

Tempe completed a study that the evaluated the cost, method, and time it would take to complete future potential mapping requirements outlined in Appendix A, Section IV.E (second measurable goal). The results of the study were included in the 2013-2014 annual report.

E. Industrial Facilities

Status of Identification and Inventory of Industrial/Commercial Facilities

In 2014 the City of Tempe Environmental Services Section updated the 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);
- Industrial facilities subject to MSGP requirements, including those facilities that have submitted a no exposure certification; and
- Other industrial and/or commercial sources (or categories of sources) Tempe determines are contributing a substantial pollutant load to the MS4.

The inventory for Title III Superfund Amendments and Reauthorization Act (SARA) and MSGP Facilities was developed by acquiring information from the following sources (See **Attachment P** for listing of these facilities):

- Arizona State Emergency Response Commission – (Tempe facilities subject to SARA Title III) – 159 Facilities
- InfoGroup, Government Division – ReferenceUSAGov Data Base (Tempe facilities subject to MSGP as identified in 40 CFR 122.26[b][14][i,ii,iv-ix, xi]) – 798 Facilities

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

- Utility billing records
- Multi-media inspections conducted by Environmental Compliance Inspectors
- Internet research based on visual field observation

The inventory of SARA Title III and MSGP facilities is duplicative in many respects and is inclusive of facilities within Tempe that are subject to industrial pretreatment permitting requirements. Industrial pretreatment facilities are prioritized for annual stormwater inspections. In addition to the above-listed facilities, Tempe has added restaurants as a "category of sources" with a potential to impact the MS4. Accordingly, all inspected restaurants are evaluated for stormwater compliance.

The inventory list will be updated during the 2016-2017 reporting year. The updated list will include businesses with Standard Industrial Codes (SIC) that have been noted, during the term of the permit, to demonstrate a potential to contribute pollution to the MS4. Additional information provided from ADEQ on facilities in Tempe with MSGP or No Exposure Certifications (NEC) will also be used to update the inventory list.

Overview of Inspection Findings and Significant Findings

Tempe ECIs conducted stormwater inspections at 125 industrial/commercial facilities subject to SARA Title III, MSGP, and Industrial Pretreatment requirements; and 104 restaurants. Restaurants were inspected for compliance with stormwater requirements along with other regulatory program requirements. As a result of these inspections, findings ranged from minor to significant. Minor findings, such as inadequate use or lack of BMPs, or inadequate material/chemical storage, did not result in enforcement escalation and were quickly addressed by the inspected entity. Four significant findings as the result of drive-by inspections or call-outs resulted in corrective and enforcement actions. Industrial/commercial inspection documentation and restaurant inspection documentation are included as **Attachment Q** and **R**, respectively.

Corrective and Enforcement Actions Needed and Taken in Response to Inspections

During inspections, Tempe inspectors routinely identify minor corrective needs that do not escalate to formal enforcement action. These corrections are usually addressed during or shortly after the inspections occur and are verified by the inspector. These findings are generally documented on inspection forms or addressed verbally.

As mentioned in Section 3.C. there were a total of five findings requiring formal enforcement related to illicit discharges to the MS4. Enforcement actions taken were at: a restaurant for a sewage discharge; a residence for pool backwash discharge; a business for non-stormwater discharge comprised of elastomeric roofing material; a mobile home park for sewage discharge; and an apartment complex for a non-stormwater discharge of chlorinated pool water into the MS4. See **Attachment J** for violation/warning letters and NOVs.

In addition to addressing minor and major deficiencies, Tempe inspectors regularly provide facilities that may require coverage with ADEQ information. During the 2015-2016 inspection year, Tempe identified 31 facilities to which the MSGP may be applicable but for which a demonstration of coverage was not provided. Tempe provided ADEQ with information for these potential non-filers on January 11, 2016, and July 15, 2016. See **Attachment S** for copies of non-filer notifications.

F. Construction Program Activities

Status

Tempe's stormwater construction program is managed by the Public Works Engineering and Community Development/Development Services Divisions. The program encompasses plan review, inventory, prioritization, inspection, and enforcement of private and Capital Improvement Project (CIP) 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. For the 2015-2016 reporting period, Tempe has reviewed and inventoried 100 percent of all 52 construction projects meeting the land disturbance criteria. During the

2015-2016 reporting year Tempe identified 44 private development projects and 8 CIP projects requiring review inventory, prioritization, and inspection.

Inspection Findings

Stormwater BMPs are checked as a part of other inspections on site. During the 2015-2016 reporting year, 49 construction site stormwater inspections occurred.

For private development, 42 qualifying sites were inspected in the reporting period. Sixteen were active construction sites and were prioritized for a higher frequency of inspection. Twenty-six sites were finalized and inspected for post construction controls. Two additional active private development sites were inspected in early July 2016 and therefore will be included in the report for FY 2016-2017.

For CIP projects, seven qualifying sites were inspected in the reporting period. Four active CIP sites were inspected five times during this reporting period. One site was inspected two times. Three sites were finalized and closed following inspections for post construction controls. The one remaining site was scheduled for a final post construction inspection but instead was shut down by the inspector. The site remains on the active list, however, it is inactive. The inspector did not notate issues with the construction site control measures during the halted final inspection. The final inspection for this site will occur when the site is released likely in the 2016-2017 reporting year at which time the site status will be closed.

The numeric summary for reporting period 2014-2015 was updated to include two CIP inspections from June 2015 not included in the 2014-2015 annual report.

Each site will have at least one annual inspection during the next reporting period per permit requirements. All inspection reports are included as **Attachment T**.

Note that the number of inspected sites does not necessarily reflect the number of sites inventoried or prioritized since the annual inspection requirement is a “rolling” target based upon the project’s grading and drainage permit issuance.

Corrective Action and Enforcement

No corrective or enforcement actions were needed or taken during this reporting period for construction activities.

No non-filers were identified. The Tempe Engineering and Development Services Divisions require proof of ADEQ’s CGP AZPDES NOI Authorization from the project’s owner or developer prior to issuance of a grading and drainage permit, and therefore do not anticipate the identification of non-filers.

Training

Stormwater training for employees directly involved with construction activities occurred on April 14, 2016 for Engineering staff. There were no new employees for this reporting year in the Community Development workgroup assigned to stormwater. The last training was conducted on January 14, 2015. See Section 3.K of this report for a summary of training events, the number of employees trained, and topics discussed.

G. Post-Construction Controls

Summary of Controls

Consistent with EPA's Low Impact Development (LID) recommendations and urban stormwater BMPs, 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; see **Attachment U**. This ordinance is an effective control measure by providing containment for approximately 50 percent of the rainfall in Tempe, and consequently limiting discharges of pollutants to Waters of the United States. Tempe's Stormwater Retention Ordinance has been in effect since 1967 and has undergone modifications to accommodate more dense development in and around downtown Tempe and the Rio Salado corridor, an area designated as the Alternative Retention Criteria Area (ARCA). Outside the ARCA, all new development or substantial improvements to existing developments that may impact Tempe's MS4 must provide storage of sufficient volume (i.e., 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. The two-year requirement may be waived within the ARCA subject to approval by the City of Tempe Public Works Director if equivalent BMPs for on-site pollutant removal are implemented.

Overview of Program

Post-construction inspections are conducted on 100 percent of all permitted residential, commercial, and CIP 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. These post-construction inspections are part of the warranty period inspections and occur within 12 months after completion of construction. The inspections provide an opportunity to identify corrective action to be implemented by the developer or responsible contractor for a variety of items, including stormwater and/or drainage controls. Stormwater control measures can utilize one feature or a combination of several features. These control measures will be examined during post-construction site inspections for which an ADEQ NOI is required.

Corrective Action and Enforcement

See section 3.F. Twenty- six qualifying private construction sites completed construction and received post-construction inspections. Three qualifying Engineering CIP construction sites completed construction and received post-construction inspections in the reporting year.

No corrective or enforcement actions were needed or taken during this reporting period for post construction activities. Post-construction inspection documents are included as **Attachment T**.

New or Revised Post-Construction Requirements

Since Tempe's last annual report, there have been no new or revised post-construction requirements related to permits the city issues. Tempe will not issue a grading permit, building permit, or a certificate of occupancy to an owner/developer until notification from the City Engineer 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 City Engineer will not issue this notification unless a project provides the required retention or unless the project is in the ARCA and the Public Works Deputy Director has approved alternative on-site pollutant removal BMPs. Sections 12-71 and 12-73 of Tempe's on-site retention ordinance contains the administrative requirements that ensure implementation of this program. The ordinance provides some flexibility to developments outside the ARCA that discharge directly to Waters of the U.S., as long as: drainage does not enter the MS4, BMPs for pollutant removal are included in the design, and stormwater is discharged consistent with AZPDES and all other regulatory requirements.

H. Outfall Inspection Program

Staff training

As a result of the 2012 MS4 Audit, Tempe developed an IDDE Program Guidance Manual to bring consistency and clarity to procedures involved during outfall inspections and investigations. During the 2015-2016 reporting year, Tempe conducted one detailed IDDE training event that covered conducting dry weather screening events and source investigations. A total of three WQSs, seven ECIs and two ECSs were trained.

Outfall inventory

Tempe has identified 42 major outfalls as defined by 40 CFR 122.26. A map and inventory of outfalls is maintained on file with Tempe's Environmental Services Section and can be reviewed by ADEQ upon request. The number of major outfalls is subject to change based upon system changes or the identification of previously unidentified outfalls.

Of these 42 major outfalls, 19 are identified as priority outfalls. The priority designation is based upon receiving water, history of illicit discharges or non-stormwater flow over the last five years, or any cause for prioritization identified by the city. The number of priority

outfalls is subject to change based upon regulatory determinations in receiving water designation, detection of illicit discharges that have not been eliminated, elimination of illicit discharges, confirmation that non-stormwater flows do not contain a significant source of pollutants, or other factors.

Inspection Tracking System

All major outfalls are inspected annually, and all priority outfalls are inspected semi-annually. If illicit discharges are identified, inspection frequencies may be increased to quarterly. Beginning in the 2014-2015 reporting year, WQSs are responsible for dry weather screenings at assigned outfalls at the required frequencies. If field screening procedures trigger the need for investigation, an ECI will conduct an inspection or make a source determination and follow-up as needed. Once screenings and inspections are completed, field data forms and investigation forms are provided to the ECS for review, after which all forms are provided to an EQS for MS4 Permit tracking and reporting.

Inspection and Screening Procedures

Outfall inspections are conducted using 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 as long as the inspection occurs at least 72 hours after the latest rain event. There were no changes in the detailed protocol for Outfall Inspection, Field Screening or Illicit Discharge Elimination procedures this year. A summary of the procedures for Inspections, Investigations, and Illicit Discharge Elimination can be found in the Storm Water Management Plan Section 6.3, Section 6.4 and Section 6.5 respectively, see **Attachment DD**.

Findings

During the 2015-2016 reporting year, Tempe WQSs conducted 65 outfall inspections. Of these, 42 inspections were completed at priority outfalls, 38 were routine priority inspections, two were increased monitoring inspections, and two were the result of call-outs. Five of the inspections identified flow from four outfalls. All five events were screened in the field. One site continues to be inspected quarterly. The enforcement letter in response to the investigation of this site is included in **Attachment V**.

Flows from three outfalls were determined to not be significant sources of pollutants and were identified as either irrigation tail water, irrigation flow, already permitted AZPDES discharges, or runoff coming from the Papago Park Ponds outside of Tempe's jurisdiction. One outfall (SR-18) is in the final stage of investigation; as of May 2016 the source is believed to have been located. The city has identified one aspect of the discharge and notified the responsible property owner of necessary corrective actions. The investigation will continue if the corrective actions do not eliminate the discharge or if analytical triggers are still present.

Completed outfall inspection forms are included as **Attachment V**.

I. New or Revised Ordinances, Rules, or Policies

Revised Ordinances

Tempe has not developed new or revised existing stormwater Code during the 2015-2016 reporting year.

Copies of Chapter 12, Articles IV and VI; and Chapter 19, Article IV, 50) B) of the Tempe City Code can be found in **Attachment U**.

Policies and Stormwater Management Plan (SWMP)

Tempe has not developed new or revised existing policy. The SWMP was updated in 2015. It can be found in **Attachment DD**. In 2013, Tempe completed a low impact development evaluation which may result in future policy and SWMP changes. This evaluation can be found in **Attachment EE**.

City of Tempe General Plan

The General Plan is the overarching planning document for the City of Tempe. It holds the community's vision for the future and is a reflection of how the community wants to grow and change over the next 30 years. During the 2012-2013 fiscal year, Tempe worked with the public to develop a new General Plan 2040. The concept of Low Impact Development was added to the plan in the form of General Plan strategies and goals. Voters approved the plan in May 2014. General Plan 2040 information can be found on the following website:

- http://www.tempe.gov/GP2040

City of Tempe Stormwater Master Plan

Appendix A, Section VII (A), of the Permit required Tempe to review the city's stormwater master plan in the second year of the permit term and report findings of the evaluation, including recommendations, in the third annual report. A team consisting of representatives from the Environmental Services Section, Water Engineering Section, and PW Engineering Division met for several months to evaluate the existing stormwater master plan. Findings and needed improvements were consolidated in August 2012 and reported in the 2012-2013 Annual Report. A portion of the work on the Tempe Area Drainage Master Study/Plan (ADMS) project being conducted by the Flood Control District of Maricopa County (FCDMC) was completed in 2016; it is anticipated that the final County model will be available FY 2016-2017.

The Tempe ADMS project will utilize FLO2D and SWMM modeling that will meet most of Tempe's Master Plan update needs. Once the MCFCD projects are completed, Tempe will use the products to update the city's stormwater master plan.

Enforcement Response Plan

Appendix A, Section III (G), of the Permit required Tempe to create a stormwater specific Enforcement Response Plan (ERP) within two years of permit issuance. In December 2012, Tempe City Council approved Tempe's new ERP. The ERP consolidates Tempe's pretreatment and stormwater program enforcement elements, and was received and approved by ADEQ. See **Attachment K** for a copy of the plan.

J. Fiscal Expenditures

Tempe's estimated 2015-2016 reporting year expenditures related to implementation of the stormwater program are $1,389,219. A more detailed analysis of fiscal expenditures can be found in Section 12 of this report.

K. Training Summary[1]

Tempe coordinated 17 employee training events covering Permit-required training topics over the course of the 2015-2016 reporting period. Twelve training events were conducted internally by city staff and five sessions were external training programs. A total of 278[2] employees attended these events. Note that Municipal Facility training included the identification and reporting of illicit and non-stormwater discharges, but is not specifically categorized as IDDE training because the training event primarily focused on pollution prevention and good housekeeping. See training summary in Table 10 for specific training details.

Table 10: Summary of Training Activities

Date(s)	Target Groups	Topic(s)	Permit Training Type	Attendees	Trainer
Aug 31-Sept 1, 2015	*Environmental Quality Specialist - Direct Stormwater Responsibilities*	Sustainable Stormwater Mgt., Green Infrastructure BMP's, Pollution Prevention, System Maintenance	Municipal Employee Training	1	American Public Works Association - Stormwater Summit
Sept 31-Oct 1, 2015	*Environmental Compliance Inspector - Direct Stormwater Responsibilities*	The Law- NPDES; Industry Permits, Municipal Permits; Inspector Protocol, Construction Permits; National Standard and Post-Construction	Inspector Training Program	1	National Stormwater Center

[1] Section added by Tempe to provide a more detailed and centralized summary of training events.
[2] Number includes employees that may have attended more than one training event.

Oct 26-29, 2015	*Environmental Compliance Inspector - Direct Stormwater Responsibilities*	Environmental enforcement efforts and coordinating enforcement activities (enforcement options, sampling, interviewing)	Environmental Crimes Enforcement - Inspector Training Program	1	Western States Project
Feb 8-9, 2016	*Environmental Quality Specialist - Direct Stormwater Responsibilities*	The Law- NPDES; Industry Permits, Municipal Permits; Inspector Protocol, Construction Permits; National Standard and Post-Construction	Inspector Training Program	1	National Stormwater Center
Apr 14, 2016	*CIP Engineering Staff - Direct Stormwater Responsibilities*	Municipal Construction, Erosion and Sediment Controls, Maintenance Requirements for BMPs, Municipal Ordinances Related to Stormwater and Construction, Plan Review Procedures, Grading and Drainage Design Standards, Requirements for Structural and Non-structural BMPs on Construction Sites, Inspection Procedures, Enforcement Procedures, Post-Construction Stormwater Controls, Post-Construction Inspection Procedures	Construction/Post-Construction	6	Tempe Public Works Engineering
May 3, 2016	*Environmental Compliance Inspectors, Environmental Quality Specialist, Environmental Programs Supervisor - Direct Stormwater Responsibilities*	Inspections & Enforcement, MSGP, Visual Assessments, LID, IDDE, Construction SWPPP, Audits	Inspector Training Program, Construction and Industrial, Municipal stormwater programs	6	Stormwater Outreach for Regional Municipalities, Pima Association of Governments, Stormwater Management Working Group
May 19, 2016	*Transportation Maint. & Traffic Operations - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	31	Tempe Environmental Services
Jun 8, 2016	*Parks Services Kiwanis - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	17	Tempe Environmental Services
Jun 8, 2016	*Parks Ken McDonald Golf Course - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	14	Tempe Environmental Services
Jun 14, 2016	*Solid Waste (part 1) - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	38	Tempe Environmental Services

Jun 16, 2016	*Parks North - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	12	Tempe Environmental Services
Jun 16, 2016	*Parks Rio Salado / Diablo - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	18	Tempe Environmental Services
Jun 21, 2016	*Solid Waste (part 2) - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	46	Tempe Environmental Services
Jun 22, 2016	*Facilities Custodial -No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	20	Tempe Environmental Services
Jun 22, 2016	*Facilities Maintenance - No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices	Municipal Facilities	32	Tempe Environmental Services
Jun 23, 2016	*Water Operations - Utility Services -No Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices, De Minimis discharges	Municipal Facilities	19	Tempe Environmental Services
Jun 30, 2016	*Environmental Services - Direct Stormwater Responsibilities*	Pollution Prevention; Spill Management; Handling, Storage of Used Oil & Other Toxic/Hazardous Materials; Permit Requirements Including Identifying and Reporting Illicit and Non-Stormwater Discharges and Field Practices, De Minimis discharges	Inspector Training Program update	15	Tempe Environmental Services
		Total Number of Training Events:			**17**
		Total Number of Attendees:			**278**

4. Numeric Summary of Stormwater Management Program Activities

The table below provides a numeric summary of stormwater management practices and activities performed each year.

	Annual Reporting Year (July 1 – June 30)					
Stormwater Management Practice or Activity:	**2010 - 2011**	**2011 - 2012**	**2012 - 2013**	**2013 - 2014**	**2014 - 2015**	**2015 – 2016**
Illicit Discharge Detection & Elimination Program						
1. Municipal Employee Training						
Number of training sessions (on non-stormwater discharges and the IDDE program)	**1**	**0**	**4**	**3**	**3**	**5**
Number of employees attending training	**7**	**0**	**14**	**15**	**10**	**24**
2. Spill Prevention						
Number of Municipal Facilities identified with hazardous materials	**10**	**53**	**53**	**53**	**49**	**49**
Number of spills at Municipal Facilities with hazardous materials that occurred in outside areas	**0**	**1**	**1**	**1**	**1**	**1**
Number of facility assessments completed *(identify any issues found requiring follow-up in narrative and summarize new practices to minimize exposure*)	**29**	**114**	**59**	**98**	**95**	**70**
Date of last review of HWMP (*identify committee participant with stormwater expertise in narrative*)	**5/11/2011**	**5/11/2011**	**12/19/2012** **6/25/2013**	**2/19/2014**	**2/19/2014**	**2/2/2016**
3. Outfall Inspections						
Total number inspected *(attach or forward electronic copy of inventory or map of major outfalls and priority outfalls)*[1]	**77**	**57**	**66**	**62**	**64**	**65**

[1] All maps and inventories are maintained on file with Tempe's Environmental Services Section and can be reviewed by ADEQ upon request.

	Annual Reporting Year (July 1 – June 30)					
Stormwater Management Practice or Activity:	**2010 - 2011**	**2011 - 2012**	**2012 - 2013**	**2013 - 2014**	**2014 - 2015**	**2015 – 2016**
Number of 'priority outfalls' identified to date *(summarize findings and follow-up actions in narrative)*	**15**	**19**	**19**	**19**	**19**	**19**
Number of 'priority outfalls' inspected[1] *(summarize findings and follow-up actions in narrative)*	**27**	**30**	**41**	**39**	**40**	**42**
Number of dry weather flows detected	**4**	**11**	**12**	**11**	**7**	**5**
Number of dry weather flows investigated	**0**	**10**	**3**	**1**	**7**	**5**
Number of major outfalls sampled[2]	**3**	**11**	**17**	**11**	**7**	**5**
Number of illicit discharges identified	**0**	**0**	**0**	**0**	**0**	**1**
Number of illicit discharges eliminated	**0**	**0**	**0**	**0**	**0**	**1**[3]
Amount (percentage, linear miles, etc.) of storm drain inspected[4]	**2,349.5 feet**	**9,057.5 feet**	**9,330.9 feet**	**10,222.8 feet**	**8,618.9 feet**	**8,668 feet**
Number of storm drain cross connection investigations	**0**	**0**	**0**	**0**	**0**	**0**
Number of illicit connections detected	**0**	**0**	**0**	**0**	**0**	**0**
Number of illicit connections eliminated	**0**	**0**	**0**	**0**	**0**	**0**
Number of corrective or enforcement actions initiated within 60 days of identification[5]	**8**	**10**	**36**	**12**	**0**	**5**
Percent of cases resolved within one calendar year of original	**100**	**100**	**100**	**100**	**100**	**100**

[1] Number reflects the number of priority outfall inspections.
[2] Includes field screening and analysis.
[3] See Findings in Section 3.H. for a description of the investigation. Pending follow up of corrective action.
[4] CCTV inspections only.
[5] Total number of corrective and enforcement action for the FY excluding minor construction and post-construction.

	Annual Reporting Year (July 1 – June 30)					
Stormwater Management Practice or Activity:	**2010 - 2011**	**2011 - 2012**	**2012 - 2013**	**2013 - 2014**	**2014 - 2015**	**2015 – 2016**
enforcement action						
Number of illicit discharge reports received from public	**36**	**60**	**37**	**59**	**90**	**61**
Percent of illicit discharge reports responded to	**100**	**100**	**100**	**100**	**100**	**100**
Percent of responses initiated within three business days	**100**	**100**	**100**	**100**	**100**	**100**
Municipal Facilities						
1. Employee Training						
Number of training events *(dates and topics to be included in narrative)*	**6**	**4**	**6**	**5**	**9**	**11**
Number of staff trained	**180**	**136**	**123**	**157**	**214**	**248**
2. Inventory, Map, or Database of MS4 Owned & Operated Facilities						
Total number of facilities on inventory	**140**	**143**	**143**	**143**	**149**	**149**
Date identification of 'higher risk' facilities completed	**In process**	**6/20/2012**	**12/26/2012**	**12/26/2012**	**12/26/2012**	**12/26/2012**
Date prioritization of municipal facilities completed	**In process**	**6/20/2012**	**12/26/2012**	**12/26/2012**	**12/26/2012**	**12/26/2012**
3. Inspections						
Miles of MS4 drainage system prioritized for inspection	**In process**	**101.5**	**101.5**	**101.5**	**101.5**	**101.5**
Miles visually inspected[1]	**6.44**	**247.72**	**127**	**122.1**	**101.6**	**202.5**
Number of municipal facilities inspected[2]	**29**	**114**	**48**	**76**	**95**	**70**

[1] Includes CCTV and above-ground linear inspections of the drainage system. Does not include cursory street inspections.
[2] This numeric parameter was added by Tempe to provide a more detailed explanation of the municipal inspection program.

	Annual Reporting Year (July 1 – June 30)					
Stormwater Management Practice or Activity:	**2010 - 2011**	**2011 - 2012**	**2012 - 2013**	**2013 - 2014**	**2014 - 2015**	**2015 – 2016**
Number of 'higher risk' municipal facilities inspected	**0**	**12**	**8**	**10**	**11**	**21**
Number of 'higher risk' municipal facilities found needing improved stormwater controls	**0**	**5**	**2**	**0**	**0**	**0**
4. Infrastructure Maintenance						
Linear miles of drainage system cleaned each year (*city to maintain records documenting specific street cleaning events*)	**13,440**	**21,890**	**21,890**	**22,499**[1]	**21,891.5**	**21,889**
Record amount of waste collected from street and lot sweeping (reported in pounds, gallons, etc.)	**714.7 Tons**	**8,28.81 Tons**	**937.4 Tons**	**1,148 Tons**	**1,175.7 Tons**	**1,007 Tons**
Total number of catch basins[2]	**367**	**645**	**1,047**	**814**	**558**	**503**
Number of catch basins cleaned	**90**	**172**	**197**	**218**[4]	**175**	**63**
Amount of waste collected from catch basin cleaning (tons)	**67**	**50.4**	**27.8**	**31.3**	**20.9**	**24.2**
Industrial and Commercial Sites Not Owned by the MS4						
Number of training events for MS4 staff	**1**	**3**	**11**	**3**	**3**	**5**
Number of municipal staff trained	**7**	**9**	**9**	**11**	**14**	**24**
Number of industrial facilities inspected[3] (see Appendix A, Part V.B)	**76**	**122**	**122**	**124**	**122**	**125**
Number of corrective or enforcement actions initiated on industrial facilities[2]	**0**	**7**	**22**	**2**	**2**	**1**

[1] Numbers amended after FY2013-2014 report was submitted. See Attachment E.
[2] Inspected, includes other stormwater infrastructure such as drywells, bubbler boxes, inlets, etc.
[3] Number excludes restaurant inspections.

	Annual Reporting Year (July 1 – June 30)					
Stormwater Management Practice or Activity:	**2010 - 2011**	**2011 - 2012**	**2012 - 2013**	**2013 - 2014**	**2014 - 2015**	**2015 – 2016**
Percentage of cases resolved under the ERP within one (1) calendar year of original enforcement action	**N/A**	**N/A**	**100**	**100**	**100**	**100**
Construction Program Activities[1]						
Number of training events for MS4 staff *(include topics in narrative summary)*	**3**	**3**	**2**	**1**	**2**	**1**
Number of municipal staff trained	**13[2]**	**14**	**16**	**5**	**24**	**6**
Number of construction/grading plans submitted for review	**9**	**15**	**13**	**24**	**42**	**26**
Number of construction/grading plans reviewed	**9**	**15**	**13**	**24**	**57**	**26**
Number of construction sites inspected[3]	**9**	**14**	**24**	**0**	**59[4]**	**20**
Number of corrective or enforcement actions initiated on construction facilities (*identify the type of actions in narrative summary*)	**0**	**3**	**9**	**1**	**2**	**0**
Post Construction Program Activities						
Number of post-construction inspections completed	**0**	**4**	**3**	**1**	**17**	**29**
Number of corrective or enforcement actions initiated for post-construction activities (*identify the type of actions in narrative summary*)	**0**	**0**	**0**	**0**	**0**	**0**

[1] Includes private and CIP activities.
[2] Number updated from the 2011-2012 Annual Report. Redundant counting of staff was removed.
[3] Number may not match review and prioritization number based upon date of grading and drainage permit issuance.
[4] See narrative in Section 3.F.

5. Evaluation of the Stormwater Management Program

In accordance with Section 5.4 of the Permit, this section provides an evaluation of the progress and success of the stormwater management program, including an assessment of the effectiveness of stormwater management practices in reducing the discharge of pollutants to and from the municipal storm sewer system.

Much of Tempe's stormwater program progress during the 2015-2016 reporting period consisted of continued fine tuning of existing programs and the completion of permit required tasks. Quantifiable program successes include the following:

- Redesigned and customized stormwater training materials for site specific municipal facility training.
- Updated strategic plan to develop a more targeted outreach program in the upcoming reporting period.
- Continued to enroll restaurants into the fats, oils and grease management program. The program reduces public health and safety concerns, plumbing backups and sewer overflows.
- Continued weekly operation of the HPCC to provide Tempe residents with an outlet for proper disposal of hazardous household products, potentially reducing their release into the environment or MS4.
- LID activities (**Attachment EE)**:
    - The efforts of Tempe's Water Conservation group provide benefit to the stormwater program by reducing chemical products necessary for landscape maintenance and water runoff. The conservation group hosted several workshops throughout the year on xeriscape landscape design, proper maintenance and irrigation, rain water and grey water harvesting. Tempe also offers landscape rebates to single family and multi-family residential properties. Ninety-four rebates were processed in this reporting year. http://www.tempe.gov/conservation
    - Completed a Water Infrastructure Finance Authority (WIFA) study for the conceptual design for flood mitigation using LID design techniques for the Loma Vista neighborhood. The consultant used J2 FLO-2D modeling from the Tempe ADMS to look at various LID features for effectiveness. This study was funded by WIFA.
    - Incorporated an evaluation of alley re-use/repurposing with LID features.
    - Continued development of Tempe Urban Forestry program with LID components www.tempe.gov/urbanforest.
    - Continued participation in various Green Infrastructure / Sustainable Development programs.

While implementation of many of these stormwater management practices is assumed to have effectively reduced the discharge of pollutants to and from the MS4, this reduction is not always quantifiable. For example, due in large part to Tempe's on-site retention policy, it cannot be assumed that all debris removed from the system or all waste collected by HPCC would have ended up in a discharge to a Water of the U.S. Tempe will continue to review analytical data in the effort to identify correlations between pollutant concentration and stormwater management practices.

6. Stormwater Management Program Modifications

In accordance with Section 5.5 of the Permit, this section provides a description of modifications, if applicable, to the stormwater management program each year as follows:

A. Addition of New Control Measures

Tempe did not implement new control measures in the 2015-2016 reporting year. The last new control measures implemented were accepted by ADEQ in January 2013 as a result of the stormwater audit findings.

B. Addition of Temporary Control Measures

Tempe continues to implement temporary control measures related to discharge concentrations of *E. coli* and copper that were higher than applicable Surface Water Quality Standards (SWQS). The temporary measures are related to outreach/education messages. The topics and frequency focus mostly on industrial/commercial inspections. See Section 10.C of this report for details.

At the request of Parks staff, as described in Section 3.D of this report, increased facilities inspections were implemented temporarily to ensure that BMPs were maintained at several Priority 1 and 2 sites. Inspection frequency is anticipated to decrease as temporary BMPs are replaced with permanent infrastructure and/or practices.

C. Increase of Existing Control Measures

Tempe did not have an increase of existing control measures in the 2015-2016 reporting year.

D. Replacement of Existing Control Measures

Tempe had requested two of the following replacements of existing control measures with the fourth year annual report and again in the 2014-2015 report. ADEQ had declined the modifications in 2013-2014 and did not specifically address them in 2014-2015 report acceptance notification. Tempe is resubmitting modification requests, as advised by ADEQ in the 2013-2014 Review of Tempe's MS4 Report letter (**Attachment FF**). Tempe requests ADEQ provide notification of their acceptance of these changes as specified in permit Section 5.5.(4).

Tempe proposes the following updates to existing control measures:

- Sections 9.4 Inventory and 9.5 Prioritization of the Stormwater Management Plan were amended to reflect an annual reporting frequency of construction site inventory and prioritization records. Tempe's routine business practices keep the qualifying construction project inventory and prioritization lists current; therefore, quarterly reporting is an unnecessary added effort. Because construction projects are routinely added to the inventory as projects are initiated, Tempe considers an annual "review" and inclusion of the construction site inventory list with the annual report an appropriate frequency for this control measure. The actual frequency in which construction projects will be reviewed and prioritized for potential to discharge pollutants will not change. As the prioritization frequency will not change, this update to the Stormwater Management Plan will continue to reduce the discharge of pollutants to the maximum extent practical.

- Tempe increased priority outfall inspections frequency, beyond permit requirements to semi-annual, but has seen no significant benefit to the increased inspection frequency; therefore, Tempe proposes to reduce priority outfall inspection frequency to annual as required by Permit Appendix A (III)(D). Tempe proposes to inspect all major and priority outfalls once per year and conduct follow-up inspections as required by the Permit. This update to the Stormwater Management Program will continue to reduce the discharge of pollutants to the maximum extent practical.

- Tempe proposes to modify streets linear mileage inspection criteria from linear mileage of streets inspected to number of catch basins inspected. Street "curb and gutter" inspections have not resulted in significant findings; however, catch basin inspections have resulted in numerous cleaning and maintenance events. In lieu of 100 miles inspected, Tempe proposes inspection of at least 80 catch basins per year. This update to the Stormwater Management Program will continue to reduce the discharge of pollutants to the maximum extent practical.

7. Monitoring Locations

This section requires a brief description of each stormwater monitoring location, including the following information, which was provided to ADEQ in the 2010-2011 Annual Report:

- Name and description of receiving water
- Outfall identification number
- Address or physical location of the site
- Latitude and longitude
- Size (acres) of the drainage area
- Land uses within the drainage area with an estimated percentage of each use
- Type of monitoring equipment

As briefly explained in Section 3.D, the Tempe Town Lake eastern dam was deflated in Q2-2013, resulting in an expanded lake that reaches to the grade control structure east of the deflated dam. As a result of this change, the discharge from SR-08 now enters Tempe Town Lake. While there has been no change to the outfall or drainage area, the receiving water has changed from the Salt River (A&Wedw, PBC) to Tempe Town Lake (A&Ww, FBC, FC). The SR-08 Fact Sheet outlining this change has not been updated since mapping of expanded Tempe Town Lake has not yet occurred. Note that new maps are anticipated to be updated in the 2016-2017 reporting year.

All other outfall information is maintained on file with Tempe's Environmental Services Section and can be reviewed by ADEQ upon request.

Note: Modifications to monitoring locations will not be implemented without a Permit modification.

8. Storm Event Records

For each monitoring location identified in Section 7.0, Table 1.0 of the Permit, summarize all measurable storm events (0.1 inch or greater) occurring in the drainage area of each monitoring location within the winter and summer wet seasons, respectively, until samples have been collected for the monitoring location. Include the date of each event, the amount of precipitation (inches) for each event, and whether a sample was collected, or if not collected, information on the conditions that prevented sampling. (Note: If unable to collect stormwater samples due to adverse climatic conditions, provide, in lieu of sampling data, a description of the conditions that prevented sampling. Adverse climatic conditions which may prevent the collection of samples include weather conditions that create dangerous conditions for personnel, such as local flooding, high winds, electrical storms, etc.)

Tempe has consolidated the permit requested information which is included as **Attachment W.**

Tempe tracks all sampling events required by the Permit. **Attachment X** summarizes sampling status throughout the 2015-2016 reporting year.

Tempe's annual rainfall is calculated using a precipitation group on the Maricopa County Flood Control District website. The group is named G051: CITY OF TEMPE and is comprised of four storm gauges in and bordering Tempe.

9. Summary of Monitoring Data (By Location)

A summary of all monitoring data for each site is provided in **Attachment Y**. The table for SR-08 includes the most recent data. This site had a change in designated use for the receiving water in the 2013-2014 reporting year. All Laboratory Reports are included as **Attachment Z**.

From 2011 through September 2014, Tempe collected orthophosphate samples without field filtration, based on its MS4 permit requirement to sample total orthophosphate. However, based upon Arizona Department of Health Services (ADHS) guidance from the EPA, filtration of samples in the field is a valid component of EPA criteria for orthophosphate sampling, and provides a more valid and defensible result for bioavailable orthophosphate. Tempe has modified procedures per EPA and ADHS guidance to include filtration of the sample within 15 minutes of collection.

In accordance with the permit, Section 7.5.4.(3) analyses for Biological Oxygen Demand (BOD) and Orthophosphate collected 4/8/2016 were not reported by the laboratory during the 2015-2016 winter wet season at two sites (SR-05 and TD-03). There were no qualifying rain events at these sites to resample during the remainder of the 2015/2016 winter wet season.

10. Assessment of Monitoring Data

A. Stormwater Quality

Tempe has reviewed all sampling event results collected from November 2011 through April 2016. A full trending of data is included as **Attachment AA**. The trending was done by a comparison of the previous year's data maximum and average to this reporting year's (2015-2016) maximum and average by site location.

Below is a brief summary of findings:

- In 2015/2016 there were 16 sampling events; from which 1,480 analytical results were produced. From those results a total of 182 parameters were detected (conventional parameters, microbiological, metals, nutrients), 168 of the parameters were detected at levels <SWQS. There were only 14 SWQS exceedances (for *E. coli*, Copper) which will be discussed more in this section. Overall, there was little significant difference in the results of 2015-2016 compared to previous year's data. There was one instance where a result increased (greater than three times the standard deviation of the average result) when this year's data was compared to previous site averages during the permit term. The increase was for Selenium at TD-03. The value was below SWQS and there was no indication of degradation to stormwater quality from Tempe's MS4.

- For the entire dataset 2011-2016, 43 sampling events were conducted during the winter wet season (November through May during 2011-2016), and 33 sampling events were conducted during the summer wet season (June through October 2012-15).

- Averages for rate, volume, duration, pH, and Temperature for all sites from 2011-2016 sites are as follows:

    - Average Rate (GPM): 2014
    - Total Volume (gallons): 168,841
    - Duration (mins): 92

- pH (S.U.): 7.5
- Temperature (C°): 21.8

Conventional Parameters

- Although all sites were observed to have similar ratios of conventional laboratory parameters (i.e., Hardness, TDS, TSS, BOD, COD), the relative levels of parameters observed from site to site varied. SR-08 was observed to have the highest values for Hardness, TDS, TSS, BOD and COD.

- Based upon the assessment of conventional parameter results, there does not appear to be any specific trends indicating the degradation of stormwater quality from Tempe's MS4.

- Metals and nutrients comprised the largest groups of components detected, with results observed for nearly all components in these groups, for nearly all sites, and at nearly every event.

Microbiological

- *E. coli* was above the SWQS at each sampling location in nine of the ten sampling events it was measured. SR-05 was less than 575 MPN during the summer 2015 event.

- *E. coli* concentrations were observed to have an insignificant change from the average 2011-2014 result (1585 MPN) to 2015-2016 result (1738 MPN), for all sites and all events during the respective periods. Although a slight increase in observed *E. coli* was observed at all outfalls in the most recent sampling period over the previous period, the data does not present an overall trend. For this reason there is no indication of degradation of stormwater quality discharges due to *E. coli* from Tempe's MS4. As stated in the permit, "*E. coli* values above the SWQS are prevalent in Arizona in high flow precipitation events." There is no indication of the *E. coli* source being related to wastewater or sanitary sewer overflows. Tempe continues to provide educational material to the public about picking up pet waste.

Metals

- Copper was observed to be above the SWQS during five of the ten sampling events at three of the five sampling locations, KP-01 and SR-08 each had two events <SWQS, TD-01 had one winter event <SWQS.

- Copper concentrations were observed to be relatively consistent from event to event in both the summer and winter wet seasons at individual sites; however, levels varied among the sites. When the 2011-2014 results (average all sites, all events 19.8 ug/L) and 2015-2016

results (average all sites, all events 13.8 ug/L) were compared, there appears to be an insignificant yet slight decrease in overall copper level discharged.

- Although average copper levels have been observed to decrease in the recent sampling period when compared to previous wet seasons, no discernible trends have been identified. Copper is abundant in the environment, both naturally occurring and in forms associated with industrial and residential uses. Tempe will continue to monitor Copper trends and determine best practices for the reduction of Copper concentrations in runoff. There is no indication of degradation of stormwater quality due to Copper discharges from Tempe's MS4.

Nutrients

- Average nutrients observed at each site in 2015-2016 demonstrate relative consistency despite differing land uses. Nutrients, although a common stormwater pollutant in many areas in the country, do not appear to be a significant contributor to stormwater pollution in the City of Tempe. Nitrogen and phosphorous species show no specific trends and there is no indication of degradation of stormwater quality discharges from Tempe's MS4.

Organic Pollutants (TPH and O&G, VOCs, SVOCs, and Pesticides)

During the 2015-2016 reporting period no organic parameters were detected. Of all Organics analyzed throughout the entire dataset (2011-2016) (i.e., Organic Toxic Pollutants – 2 parameters; Volatile Organic Components (VOCs) – 33 parameters; Semi-Volatile Organic Components (SVOCs) – 45 parameters; and Pesticides – 25 parameters), only 12 detects have been observed– and each consisted of detection near the Practical Quantitation Level (PQL) and well below the SWQS.

Between 2011-2013, the detected Organics were comprised of three Total Oil and Grease detects, which were all observed during the winter wet season and from three different sites. There are no associated numeric SWQS for these analyses. There were two phenol (SVOC) detects, which occurred in the summer wet season (both from the same site, in July and September) and one diethyl phthalate (SVOC) detect, which occurred in the winter wet season.

During the 2013-2014 reporting year, two detects were observed for 2,4-dinitrophenol (SVOC) from two sites, and four detects for 4-nitrophenol (SVOC) at the same two sites as well as two others (all during the winter season). Due to the low levels and the lack of additional data points, conclusions cannot be drawn as to trending of Organics related data.

Neither Pesticides nor Volatile Organic Components (VOCs) have been detected during the permit term. There is no indication of degradation of stormwater quality discharges from Tempe's MS4 by Organics.

Conclusions

Based on the data collected during this permit term, no obvious discernible and consistent trends, improvements or degradation of stormwater quality from the MS4 were observed.

During the 2012-2013 Annual Report, Tempe suspected that TD-01 sampling was being impacted by "Tempe Ditch" flow. During large rain events the flow in the "Tempe Ditch" has the potential to back-up into the TD-01 outfall, possibly comingling other sources of stormwater and/or non-stormwater. Further evaluation of the data collected (2011-2013) has led to the conclusion that TD-01 is not impacted by "Tempe Ditch" flow. This conclusion was reached by evaluating the data for TD-01, and comparing the collected data to the remaining four sites. If standing water is observed to be "backed up" into the outfall prior to storm sampling events, it is suspected that the volume of the storm flush is sufficient to ensure that samples collected from TD-01 are primarily related to storm runoff. Tempe will continue to watch this potential concern.

B. Surface Water Quality Standards (SWQS)

Stormwater monitoring sample results conducted consistent with Permit sampling conditions have been compared to SWQS for the applicable receiving water. Summary of Monitoring Data sheets **in Attachment Y** allow for this comparison. Note that any result found to be above a SWQS is shaded in red.

The Permit allows for the testing of dissolved metals and collection of Hardness data used to calculate corresponding SWQS; however, guidance on how to collect of Hardness samples is not provided. Beginning with the 2012-2013 reporting year, Tempe's approach to collecting ambient Hardness data for a perennial water body, for the purposes of SWQS comparison, changed. During the 2011-2012 reporting year, Tempe collected this information by sampling the applicable water body (Kiwanis Park Lake) at the time of the stormwater event. After evaluation of the Hardness data, Tempe concluded that the water body was under the direct influence of the stormwater discharge and not representative of ambient conditions. In an effort to compare Hardness dependent parameters to ambient conditions, Tempe samples this water body during times that stormwater discharges are not occurring. The same practice has been implemented for Tempe Town Lake.

C. Exceeding a SWQS

Tempe has been experiencing concentrations greater than SWQS for *E. coli* and copper since the 2011-2012 reporting period. Tempe identified only these two parameters as having concentrations greater than the applicable SWQS during the 2015-2016 reporting period. *E. coli* was found to be higher than the SWQS at five sites and nine of the ten sampling events. Site SR-05 was below the SWQS in July 2015. Dissolved copper was found to be higher than the

applicable Hardness dependent standard at three sites and five of the ten sampling events. KP-01 has not experienced an event of copper greater than the SWQS since July 2013. SR-08 has not experienced an event of copper greater than the SWQS since July 2014. SR-08 has had only two events where copper was greater than the SWQS in this permit term. TD-01 had only one event of copper greater than the SWQS, during the 2015-2016 reporting period, September 2015.

In 2014-2015, KP-01 experienced a single pH event of 9.1, greater than the SWQS. This result was an excursion from typical pH values at this outfall location. Throughout 2011-2013, the site average pH was 7.3 pH units with the previous highest pH result at the site being of 7.6. There is no known cause for the atypical result. An inspector investigated the area around KP-01 and could not pin point a specific source in the residentially zoned area that may have contributed to the higher pH level. Tempe will continue to monitor this site for pH values greater than SWQS on subsequent sampling events. Please see **Attachment BB** for details pertaining to sampling date, location, impacted receiving water, SWQS and results.

During the 2011-2012 reporting period, Tempe began the implementation of provisions outlined in Permit Section 4.0, relating to the recurrence of discharges higher than SWQS for *E. coli* and copper. After a full review of all sample results during the 2012-2016 reporting periods, there does not appear to be an immediate or obvious correlation between implemented control measures and *E. coli* and copper concentrations. The concentrations of these pollutants appear to correspond more directly to when the sample was taken (time of year and season). Tempe will continue to evaluate existing and future analytical data in an effort to better understand impacts on pollutant concentrations in addition to following the control measures identified in Table 11 and Table 12.

Potential pollutant sources and applicable control measures are summarized in the tables below.

Table 11: Copper Investigation, Evaluation, and Action

Potential Sources of Copper	
Vehicle brake pads	CCA pressure treated wood
Mobile cleaning	Air emissions
Vehicle washing and service	Soil erosion
Architectural copper	Irrigation water
Pool/spa/fountain algaecides	SSO
Pesticides, algaecides, root killers, and fungicides	Cooling towers
Industrial use of copper	Discharges to POTWs
Evaluated Control Measures	
Industrial Inspections - Focus on copper sources and applicable BMPs.	
Evaluate service facilities for automotive waste disposal practices.	
Outreach/Education - Pools, spa, fountain use of copper treatment and discharge practices.	

Outreach/Education - Alternatives for copper bearing pesticides, algaecides, & fungicides.
Outreach/Education - Proper use of copper bearing pesticides, algaecides, & fungicides.
Newly Developed/Implemented or Continued Control Measures
Industrial Inspections - Inspection focus on potential sources of copper. BMPs discussed if applicable.
Industrial Outreach/Education – Copper focused education and Prevention BMPs directed to industrial users.
Public Outreach/Education – Copper focused education and Prevention BMPs directed to the general public.
General - Continued implementation of IDDE program.

Table 12: *E. coli* Investigation, Evaluation, and Action

Potential Sources of *E. coli*	
Animal feces (domesticated, wild, farm)	Wastewater treatment plants
Manure	On-site septic systems
Wastewater discharges	Illicit connections
Evaluated Control Measures	
Review of SSO Control Practices	
Maintenance and cleaning of sewers	
Septic tank policies	
Outreach/Education - Clean up after your pet	
Outreach/Education - Feeding wild animals at waterside locations.	
Newly Developed/Implemented or Continued Control Measures	
Review of SSO Control Practices - Continued review of practices related to response and reporting of SSO events.	
Maintenance and cleaning of sewers - Continued implementation of comprehensive sanitary sewer cleaning program.	
Septic tank policies - Continued non-allowance of septic tank use.	
Public Outreach/Education - *E. coli* focused education and prevention BMPs directed to the general public.	
Public Outreach/Education - BMP focused education and prevention BMPs directed to the general public.	
Public Outreach/Education - Continued BMP focused on pet waste pick-up in public places.	

11. Estimate of Annual Pollutant Loadings

An estimate of the pollutant loadings each year from the municipal storm sewer system to Waters of the U.S. for each constituent listed in Section 7.4 of the Permit detected by stormwater monitoring within the Permit term. Pollutant loadings and event mean concentrations may be estimated from sampling data collected at the representative monitoring locations, taking into consideration land uses and drainage areas for the outfall. Include a description of the procedures for estimating pollutant loads and concentrations, including any modeling, data analysis, and calculation methods. Compare the pollutant loadings estimated each year to previous estimates of pollutant loadings.

There was little significant change in pollutant loads when comparing the 2015-2016 pollutant loading data with the previous year's data. The pollutant loads decreased more than three times the standard deviation of the permit term average results for ten parameters at five of the seven

sites. The pollutant load for Total Kjeldahl Nitrogen (TKN) and Total Nitrogen loads decreased at Papago Park South pond. Total Phosphorous decreased at Salt River below TTL and Indian Bend Wash. Gila River and Indian Bend Wash decreases in TSS. Indian Bend Wash, the Salt River above TTL and Gila River sites each had a decrease in COD loadings. Additionally, Indian Bend Wash had a decrease in Copper pollutant loading. Table 13 provides a summary of 2015-2016 pollutant loading estimates and **Attachment CC** contains detailed analysis information.

For pollutant loading calculations, Tempe's annual rainfall is calculated using a precipitation group on the Maricopa County Flood Control District website. The group is named G051: CITY OF TEMPE and is comprised of four storm gauges in and bordering Tempe.

Table 13: 2015-2016 Annual Pollutant Loading Estimate* (tons)

	Gila River	Kiwanis Park Lake	Salt River (above TTL EDW)	Indian Bend Wash	Tempe Town Lake	Salt River (Below TTL)	Papago Park South Pond
BOD	10	1.5	4.7	1.2	11	39	0.033
COD	63	9	29	7.4	67	243	0.2
TSS	55	7.8	25	6.4	58	210	0.17
TDS	63	9	29	7.4	68	243	0.2
Total Nitrogen	1.8	0.25	0.8	0.2	1.9	6.7	0.006
TKN	1.2	0.18	0.56	0.14	1.3	4.8	0.004
TP	0.23	0.032	0.1	0.027	0.24	0.88	0.001
Antimony	0	0	0	0	0	0.002	0
Arsenic	0	0	0	0	0	0.002	0
Barium	0.009	0.001	0.004	0.001	0.01	0.035	0
Chromium	0.0007	0	0	0	0.0008	0.003	0
Copper	0.007	0.001	0.003	0.0008	0.007	0.026	0
Lead	0	0	0	0	0	0	0
Selenium	0	0	0	0	0	0.001	0
Zinc	0.02	0.003	0.009	0.002	0.022	0.078	0

Note metals with non-detects are not listed in the table.

12. Annual Expenditures

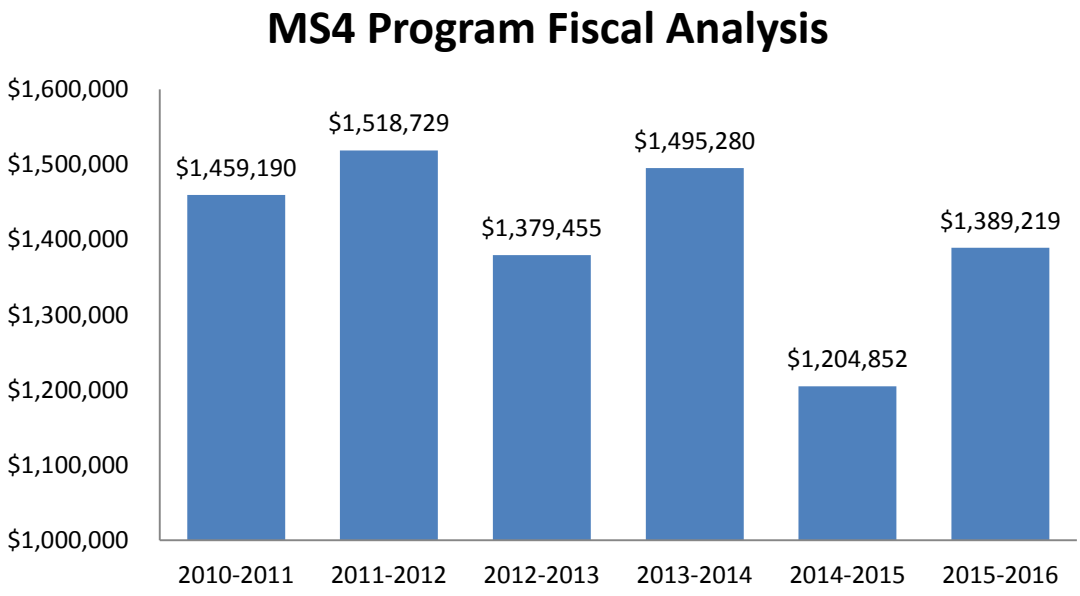
Tempe's stormwater program expenditures for the July 1, 2015-June 30, 2016 reporting period is conservatively estimated to be $1,389,219. Funding for the program comes from Tempe's CIP fund and various Public Works Department general and enterprise funds. Explanation of these expenditures and funding sources can be found further in this section.

The following factors were considered when developing this fiscal analysis:

- Public involvement and participation programs are not exclusively related to the stormwater program. Accordingly, stormwater expenditures in these areas were either estimated to be one-half of the total operational budget, or the time and materials specific to stormwater activities.
- Most of the operational street sweeping activities are funded as a stormwater program component and are reflected as such.
- Employee attendance at training events hosted internally is not incorporated as a stormwater expenditure, though cost to develop and conduct training is considered.
- Adopt-A-Park programs are volunteer events that have been restructured to run solely on a volunteer basis; Tempe expenses are negligible.

Tempe's stormwater expenditures reflect an increase over the 2014-2015 reporting year. The following considerations help to explain the overall and specific increased expenditures:

- Engineering stormwater upgrade and inspections project expenditures increased significantly from last year.
- Expenses for CIP and Private construction projects increased.
- Inspections/Enforcement expenses increased due to an increase detailed inspection effort with a confined space entry.
- Program administration expenses increased due to an increase in hourly labor rate.



Tempe cannot accurately estimate the scope of budget changes and cost allocations for the 2016-2017 reporting year; however, the city does anticipate expenditures similar to previous years.

Tempe will continue to streamline various city processes and increase operational efficiencies to ensure that all stormwater regulatory mandates are met in an economically and environmentally responsible manner. A full summary of this Fiscal Analysis can be found in Table 14.

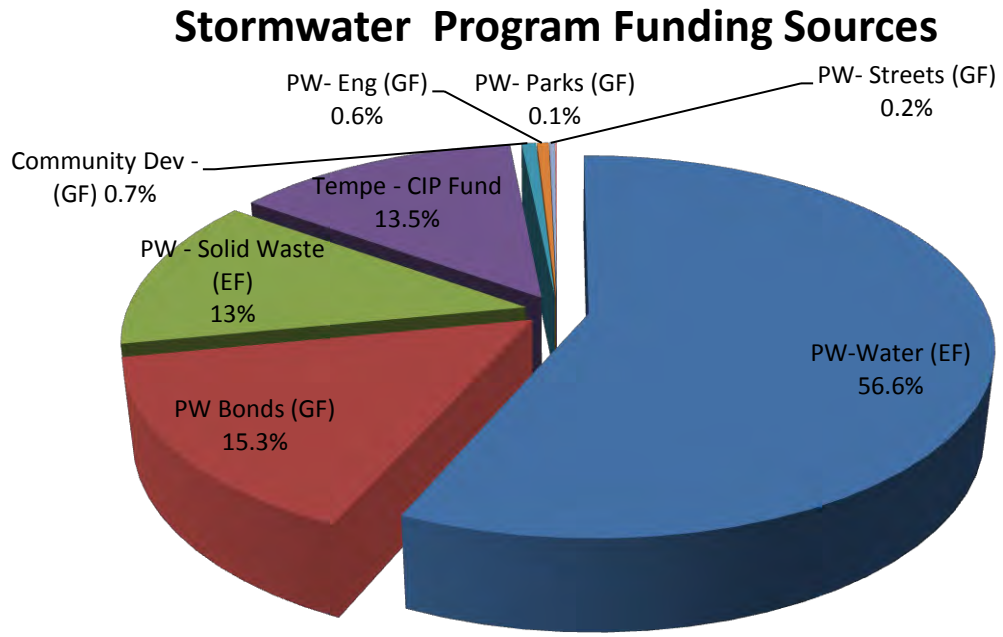
Table 14: Tempe MS4 Annual Expenditures and Fiscal Analysis Fiscal Year 2015-2016

Activity	Amount in U.S. Dollars	Funding Source(s) Enterprise Fund (EF), General Fund (GF)	Notes
Program Administration (annual reporting, SWMP development, implementation, training, etc.)	$348,608	PW - Water (EF)	Cost for 1.75 EQS, 0.25 EPS
Legal Counsel	$2,000	PW - Water (EF)	Legal counsel - time
Municipal Facility Stormwater Upgrades and Infrastructure Repair	$212,145	PW - Bonds (GF)	Cost for facility BMPs and minor infrastructure repair, drying bed rehab
Public Education and Outreach		PW - Water (EF)	
Materials	$1,510		BMP Brochure Printing/Excal Training Materials
Memberships	$2,500		STORM Membership
Other	$443		Outreach Booth for Festival of Arts
Public Involvement and Participation			
Hazardous Mat Safety/HPCC	$180,131	PW - Solid Waste (EF)	1/2 Full Operational Expenditures
"Adopt-A…" & Volunteer Programs	$ 0*	PW - Parks (GF)	Supplies-Equipment-Time
Adopt-A-Street	$1,400	PW - Streets (GF)	Time
Training (external)	$1,254	PW - Water (EF)	Training by National Stormwater Center / APWA
Capital Expenses for new, replaced, or repaired stormwater sewers, capital for facility replacement.	$187,886	Tempe - CIP Fund	Repair/Replace storm sewer
Operational Expenses for cleaning and/or repairing stormwater sewers.		PW - Water (EF)	
Cleaning (internal)	$1,073		Internal cleaning/inspection labor
Cleaning (contract)	$26,372		Contract cleaning
Engineering Capital Construction Stormwater Programs	$7,799	PW - Eng (GF)	Staff Time
Private Construction Stormwater Programs	$9,486	CD - DS (GF)	Staff Time
Stormwater GIS development, maintenance, and operations, staff time, etc.	$9,480	PW - Water (EF)	Stormwater GIS development, maintenance, operations, and staff time

Inspections/Enforcement (IDDE, industrial/commercial, etc.) and Sampling Assistance.	$100,831	PW - Water (EF)	Inspections - time and equipment
Monitoring/Screening/Analytical		PW - Water (EF)	
Analytical	$17,639		External Lab Fees Only
Staff Time - Chemists	$14,579		Staff analytical
Staff Time - Sampling and screening + outfall inspections	$40,444		Staff sampling and outfall screening
Equipment	$2,880		Sampling Equipment
CCTV	$9,000	PW - Water (EF)	Inspection - time and equipment
Parks	$1,400	PW - Parks (GF)	Inspection - time and equipment
Streets			
Inspections	$2,070	PW - Streets (GF)	Time
Street sweeping	$198,287	PW - Water (EF)	4 FTEs - Stormwater Expenditures
Permit Fee	$10,000	PW - Water (EF)	Permit Fee
Total	**$1,389,219**		

*Adopt-A-Park Program is now run entirely by volunteers and no City staff members are involved.

A summary of funding sources can be found below.



13. Attachments

In an effort to save resources and paper, Tempe is providing all attachments in electronic format. In the event ADEQ feels that there is missing information or would like paper copies of any attachment, please feel free to contact Tempe's stormwater representative. Table 15 summarizes the attachments.

Table 15: Summary of Report Attachments

Attachment Letter Designation	Attachment Name	Attachment Letter Designation	Attachment Name
A	Outreach, Education, Awareness	Q	Industrial Commercial Inspections
B	STORM Annual Report	R	Restaurant Inspections
C	Training Sign-In Sheets	S	Non-Filer Notifications
D	ESS ARCA Infrastructure Inspections	T	Construction Inspections
E	MS4 Cleaning Summary	U	Tempe City Code
F	Parks & Open Spaces Infrastructure	V	Outfall Inspections
G	Streets Infrastructure Inspections	W	Sampling Event Parameters
H	WUD Eng. CCTV reports	X	MS4 Sample Event Tracking
I	Call-out Summary	Y	Summary of Monitoring Data
J	Enforcement Documents	Z	Laboratory Reports
K	City of Tempe ERP	AA	Data Trending
L	Municipal Facility Inspections	BB	SWQS Comparison
M	Municipal Facility Chemical Handling and Spill Procedures	CC	Pollutant Loading report
N	Hazardous Waste Management Plan	DD	COT SWMP (Minus Attachments)
O	COT MS4 Pesticide Herbicide Plan	EE	LID Evaluation
P	MSGP- SARA Inventory	FF	ADEQ Review 2013-14 Tempe MS4 Annual Report