



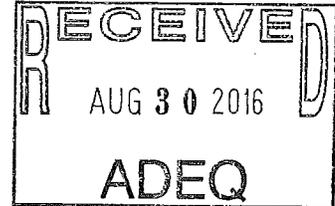
Maricopa County
Environmental Services Department



Carl D'Acosta, M.S., R.S.,
Environmental Services
Stormwater Quality Program
1001 N. Central Ave. #
Phoenix, AZ 85004-1940

August 30, 2016

Christopher Henninger
Arizona Department of Environmental Quality
Surface Water Section/ Stormwater & General Permits Unit (5415A-1)
1110 West Washington Street
Phoenix, AZ 85007



Re: Maricopa County 2016 Annual Report

Dear Mr. Henninger,

Please find attached a copy of Maricopa County Small MS4 Annual Report for the fiscal year 2016.

A copy of this annual report will be made available for viewing via the website
www.maricopa.gov/EnvSvc/QC/StormWater/

Please address all inquiries to:

Carl D'Acosta
Stormwater Program Supervisor
Maricopa County Environmental Services Department
1001 N Central Avenue
Suite 300
Phoenix, AZ 85004

Telephone: 602.506.6944
Email: cdacosta@mail.maricopa.gov

Sincerely,

Carl D'Acosta, M.S., R.S.
Stormwater Program Supervisor, Maricopa County Environmental Services Department



**Maricopa County
Environmental Services Department
Quality and Compliance Division
Stormwater Quality Program**



Environmental Services
Department

**AZPDES Phase II FY2016 Annual Report
August 2016**

Introduction

The Maricopa County MS4 system consists mainly of flood control conveyances, drainage ditches, catch basins, storm drains, county owned streets, curbs and gutters. Our Jurisdiction is the urbanized, unincorporated area (UUA) of Maricopa County (2010 Census is 149 square miles with a population of about 149,000). The County has developed a Stormwater Management Program (SWMP), which is administered by the Environmental Services Department’s Stormwater Quality Program. This annual report documents and summarizes the implementation of the Maricopa County SWMP during the previous fiscal year. Program results are evaluated and planned changes towards continuous improvement are described. The annual report also serves as a “state of the SWMP” report for the general public or other stakeholders in the community.

Since 2003 Maricopa County has invested significant resources to eliminate stormwater pollution and protect our surface waters. The Maricopa County Board of Supervisors was authorized to operate the Municipal Separate Storm Sewer System (MS4) under the Phase II Arizona Pollution Discharge Elimination System (AZPDES) permit AZG2002-002 on December 19, 2007. The required Stormwater Management Program (SWMP) was approved on November 25, 2009. This is the eighth annual report that has been issued since the SWMP was adopted. Each year the County strives to integrate the iterative process of review and improvement into all related permit compliance activities. It is the County’s intent to continue the stormwater pollution prevention efforts, to protect environmental quality for the benefit of the citizens, and to be a leader in the County and State in environmental protection.

The annual report form authored by the Arizona Department of Environmental Quality (ADEQ) has been a good tool for reporting activities performed under this permit. ADEQ has indicated that the form contains a suggested format for an annual report; therefore, using this document as a guide, the County has utilized it supplementing additional information. This updated format provides the requested data as well as information that may be used by the County for the future of the program. Please accept this updated format which includes the following changes:

- Part A, “General Information”, including the technical and billing contact for this permit.
- Part B, “Additional Information”
- Part C.a., “Stormwater Management Program Status”, including the following columns:

MCM	Minimum Control Measure - The six MCMs listed in Part V.B. of the permit.
BMP	Best Management Practice activities in the Stormwater Management Program agreed upon through direction of the State on November 25, 2009, and updated through each annual report.
Measurable Goal	Achievable goals in the Stormwater Management Program agreed upon through direction of the State on November 25, 2009 and altered as necessary by Maricopa County to ensure Maximum Extent Practicable (MEP) activity continues.
New or Revised	Place an X in this column if the BMP or measurable goal is new or revised, such as replacement with another BMP, addition of a new measurable goal, or revision of a start date, etc. Briefly explain the change to the SWMP in the “Implementation Status” column.
Start Date	The scheduled start date (month and year) for each measurable goal. Enter the actual start date of the activity or program.
Implementation Status/Frequency/Achievement	This column is for enumerating the compliance activities performed during the reporting period and may include the actual number of activities, percent reached, or frequencies performed. Additionally, it may indicate comments on the implementation status (such as “completed”, “in progress”, or “not started”), notes on permit compliance status, or an explanation for any BMP for which a zero (0) has been reported. If an activity is in progress, but has an expected end or completion date, indicate the expected achievement date.
Responsible Entity	The department or division in the municipality responsible for performing this activity.
Documentation	List the documentation used to support the reported number, status, and/or achievement date.

- Part C.b., “Stormwater Management Program Changes” including changes that are to be added to the program. This includes new or altered BMPs or minor SWMP changes found to be lacking during the program

year. These BMPs or minor SWMP changes will be implemented immediately in the next reporting period. Additionally, significant SWMP changes will be added here as a formal request to ADEQ for approval.

- Part D, "Certification"
- Part E, "Attachment"

AZDEQ Phase II MS4 Annual Report Form

A. General Information

Permittee:	Maricopa County Board of Supervisors
Permit number:	AZG2002-002
County:	Maricopa County
Annual Report Period:	FY2016 07/01/2015 – 06/30/2016
Annual Report due date:	09/30/2016
Responsible Authority:	Steven Goode
Title:	Director
Section:	Environmental Services Department, Office of the Director
Address:	1001 N. Central Ave., Suite 401, Phoenix, AZ 85004
Telephone Number:	(602) 506-6654
Email Address:	SGoode@mail.maricopa.gov
Technical Contact:	Carl D'Acosta
Title:	Environmental Specialist Supervisor
Section:	Environmental Services Department, Quality & Compliance Division, Stormwater Quality Program
Address:	1001 N. Central Ave., Suite 401, Phoenix, AZ 85004
Telephone Number:	(602) 506-6944
Email Address:	CDacosta@mail.maricopa.gov
Billing Contact:	Gus Martinez
Title:	Finance Manager
Address:	1001 N. Central Ave., Suite 400, Phoenix, AZ 85004
Telephone Number:	(602) 506-6703

B. Additional Information. See additional information attached to end of report for any item checked "yes" below.

1. Changes have been made or are proposed to the SWMP since the last annual report, including changes in response to ADEQ's review.	YES	NO	X
2. The MS4 has annexed lands.	YES	NO	X
3. Impaired Waters			
a. The MS4 discharges directly to an impaired water.	YES	NO	X
b. Impaired waters within 10 miles of the MS4's jurisdiction.	YES	X	NO
4. TMDLs			
a. The MS4 discharges directly to water for which a TMDL has been established.	YES	NO	X
b. A TMDL has been established for surface waters within 10 miles of the MS4's jurisdiction.	YES	NO	X
5. The MS4 has conducted analytical monitoring of stormwater quality.	YES	NO	X
6. The MS4 is relying on another government entity to satisfy some permit obligations.	YES	NO	X

C.a. Stormwater Management Program (SWMP) Status:

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
1. Public Education and Outreach							
	1.1 Develop and distribute educational materials						
		Distribute at least 500 Educational Materials annually		12/2006	Completed and ongoing	ESD	
		Number of Educational Materials distributed		12/2006	<p>14,180 brochures, print materials and promotional items distributed in FY16.</p> <p>The County provided 12,432 educational materials to the public which included brochures, bookmarks, illicit discharge magnets, illicit discharge cards, fact sheets (i.e. Pet Waste), Sam the Salamander masks (our mascot), Sam the Salamander stickers, and a children’s Stormwater activity book. These materials were distributed at schools, public events, in public buildings, and on our Stormwater website.</p> <p>The County distributed 1,748 promotional items bearing educational information and Stormwater pollution prevention slogans. Promotional items included Frisbees, cups, calendars, reusable shopping bags, bracelets, crayons, clips, pencils, pens, pet waste containers, jar openers, drawstring bags, coffee mugs and water bottles</p> <p>Items included: a school outreach brochure (Clean Water: Students Can Help), a business brochure (Clean Water: Business Can Help), salamander masks, salamander stickers, salamander tattoos, and a children’s Stormwater activity book.</p>	ESD	<p>Minimum Control Measures FY16</p> <p>OutReachActivity 2016.xlsx</p> <p>STORM-FY16-AnnualReport.pdf</p>

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					Updated Brochures/Print Material Used for FY16: Maricopa County's Clean Water You Can Help, Clean Water Students Can Help, Clean Water Businesses Can Help, 10 Tips Bookmark, Pet Waste (English/Spanish), Swimming Pool Maintenance, Retention Basins, Home Repair and Remodeling (English/Spanish), Lawn Care (English/Spanish), Waste Handling and Disposal, Painting Contractors, Mobile Cleaning- Vehicles (English/Spanish), Mobile Cleaning - Carpets (English/Spanish), Commercial Landscape Maintenance (English/Spanish), Animal Care and Handling Facilities, Auto Recycling Facilities (English/Spanish), Food Service Industry (English/Spanish/Chinese), Plant and Tree Nurseries (English/Spanish), Pressure Washing and Surface Cleaning, Auto Repair Facilities (English/Spanish), Construction Sites (English/Spanish), Vehicle Care (English/Spanish), Sam the Salamander Masks, Sam the Salamander Stickers, Sam the Salamander tattoos, Storm Drain Dan Coloring Books, children's Stormwater activity Book, Illicit Discharge Cards, Illicit Discharge Magnet and the EPA's After the Storm and Solution to Pollution.		
		Website activity		12/2006	80,192 Page views 6,368 Downloads These numbers represent all page views and downloaded information for all Stormwater related web pages within the County.	ESD	Minimum Control Measures FY16 Webrends Analytics Reports
1.2 Public education Public Service Announcement (PSA) on stormwater							
		PSA aired for at least 4 weeks	X	12/2006	Performed annually.	ESD	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					Revised to replace the antiquated term, "PSA" with "multi-media outreach". Multi-media outreach better describes the activities conducted. This change will take place the next reporting cycle.		STORM-FY16-AnnualReport.pdf Total BEN Articles FY15-16.pdf
		PSA aired timeframe		12/2014	<p>Billboard Initiative Bear Essential News Movie Campaign Facebook</p> <p>Billboard Initiative: The billboard initiative delivered the stormwater pollution prevention message to the general public. The billboard campaign ran for two months during this reporting year, from July 1 – August 23 (53 days). The billboards were located along major transportation routes of the region and included 20 digital panels and 2 static panels. The results of this campaign delivered 30,213,425 impressions.</p> <p>Bear Essential News: Outreach staff created 10 unique activity based ads that were placed in a regional student educational newspaper, called "Bear Essential News" (BEN). For each of the 10 months the ad was published in BEN, 110,000 copies were distributed to 375 elementary and middle schools in 22 school district, plus additional charter and private schools. This totals to approximately 1,000,000 total views for the BEN ad campaign.</p> <p>In addition, BEN included a web page tile with 80 hits</p>	ESD	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					<p>and a BEN email promotion to 4,500 kids, teachers, parents, and businesses who all received two email blasts.</p> <p>Movie Campaign: The movie ad campaign ran for 3 month (November, December and February), in 9 theaters on a total of 158 screens. This campaign reached approximately 3,800,000 viewers.</p> <p>In addition to the movie ad, a static ad campaign was also established and is estimated to have reached 1,000,000 viewers.</p> <p>Facebook posts: A total of 160 posts on stormwater pollution prevention were posted, which reached 2,188 viewers.</p> <p>Note: Although the STORM Organization performed or sponsored some activities reported in this measure, the responsibility of performing the activity remains on the County. The significant increase of people reached is due to the success of the movie campaign and the billboard initiative.</p>		
		Estimate of population reached		12/2006	Over 36,000,000 views and impressions.	ESD	
1.3 Maintain and update the Maricopa County Stormwater Website							
		Website maintained with the SWMP and NOI		12/2006	<p>Completed and updated as needed</p> <p>11 pages on the Maricopa County Environmental Services Department website are dedicated to the program. These pages have links to downloadable</p>	ESD	<p>http://www.maricopa.gov/EnvSvc/QC/StormWater/</p> <p>Minimum Control Measures FY16</p>

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					items and resources for business, construction, and citizens. The SWMP, Notice of Intent (NOI), and Maricopa County Stormwater Regulation are located on the main program web page.		Webtrends Analytics Reports
		SWMP and NOI website activity		12/2006	45,486 Downloads This is the number of downloads recorded for the SWMP and NOI only.	ESD	
2. Public Involvement / Participation							
2.1 Provide various vehicles of communication to the general public for feedback to the County							
		Provide 500 surveys annually		12/2009	Completed and ongoing	ESD	2016 Stormwater Survey Response Report.docx
		Number of surveys provided		12/2009	1,831 The surveys are intended to promote the Stormwater pollution prevention message to the general public. The County attempts to inform as much of the population about the Stormwater pollution prevention message as possible. The surveys were provided at public events, posted on the internet and were accessible on the Environmental Services Department web page. The outreach program provided 1,831 blank surveys of which 247 were completed.	ESD	Minimum Control Measures FY16
		Survey responses received		12/2009	247 responses	ESD	
2.2 Develop a Stormwater Stakeholder Workshop							
		Stakeholder workshop(s) held		12/2009	1	ESD	SW_PublicNotice_081815.pdf SIGNIN_SHEET_091615.pdf
		Number of attendees		12/2009	2 One Public meeting for the draft FY2015 annual report held on September 16 th , 2015.	ESD	
2.3 Establish stormwater related contests for school children and local communities							
		Minimum of one contest per year		12/2009	Completed and ongoing	ESD	Minimum Control

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
		Number of contests		12/2009	1	ESD	Measures FY16
		Number of submittals		12/2009	410	ESD	2016 Stormwater Poster Contest Winners press release.pdf
		Number of participating schools		12/2009	16	ESD	
		Public/Private Collaboration		8/2011	<p>6 participating sponsors</p> <p>In FY2016, Maricopa County Environmental Services Department Stormwater Quality Program collaborated with The Children’s Museum of Phoenix, The Wildlife World Zoo and Aquarium, the Desert Botanical Garden, the Arizona State Parks, Maricopa County Parks & Recreation and the Maricopa County Library District to support a poster contest for grades 3-4 and grades 5-6. The theme of the poster contest was “Help Sam Make Clean Storm Drains Happen”. With 410 entrants, and 6 public sponsors. Posters were judged based on artwork, originality, and message conveyance. The winning entrants were presented with prizes and a special award certificate at a Maricopa County Board of Supervisors public meeting.</p> <p>In addition to sponsoring the poster contest, Stormwater Program calendars created from this contest have been placed on display at Maricopa County Parks, The Maricopa County Administration building and Maricopa County Libraries, and have been handed to residents during outreach events and to teachers during school outreach programs.</p> <p>Additionally, The Maricopa County Department of Transportation maintains the Adopt-a-Highway (AAH) program. In FY2016 the program cleaned 194.95 miles of roadway, supported 138 AAH groups, recruited 633 volunteers and recorded 198 volunteer hours. These efforts resulted in 10.65 tons of waste being collected</p>	ESD MCDOT, AAH program	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year. and disposed of properly.	Responsible Entity	Documentation
3. Illicit Discharge Detection and Elimination							
	3.1 Identification of illicit discharges through an inspection program						
		Storm sewer system map with location of outfalls and receiving WoUS		12/2009	<p>Stormwater system mapping with locations of outfalls and receiving WoUS is in progress and is expected to be completed within 6 month from the issue date of the new AZPDES Phase II permit.</p> <p>Storm sewer system mapping has been the goal of the program since its inception. The storm sewer is a complex system with many types of stormwater structures. The County MS4 urbanized jurisdiction has been updated per the 2010 census. The 2010 census data was available from the federal Census Bureau in May of 2012, and was implemented into the program immediately. The new census data increased the Unincorporated Urbanized Area (UUA) from 80 square miles to 150 square miles. This, along with annexations and changes in documentation of stormwater structures, required the program to restart our storm sewer system map. Since the expansion of the UUA, 100% of the 150 square miles have received storm sewer structure and outfall inspection activities. The majority of all stormwater structures and outfalls have been identified and any remaining will be identified in the process of system mapping. More outfalls are expected to be identified as part of this process. The program has adopted a multistage approach to</p>	ESD	GIS map and inventory

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					mapping the storm sewer system. Stage one has been to find all municipal storm systems, identify all inlets and outfalls, and stop any illicit discharges and improper disposal to the storm system. During this process, Waters of the United States (WOUS) were mapped, and jurisdictional boundaries were confirmed. Stage two will be to perform recurring inspections on a percentage of the known outfalls each year, proactively inspect and verify ownership of stormwater structures, and map the municipal surface and subsurface stormwater structures.		
		Illicit discharge improper disposal detection and elimination program		12/2009	Completed and ongoing	ESD	
		Illicit discharge improper disposal detection and elimination citation		12/2009	6 Citations 6 citations in the form of Letters of Outstanding Violation (LOVs) were documented for possible discharges to the MS4 that may be recognized as violations of the Stormwater Quality Regulation. All documented violations were addressed by the responsible parties, and no follow-up enforcement action was needed. A potential illicit discharge is currently under investigation but no citation has been issued thus far. Further investigation is currently in progress. Additionally, numerous violations were documented against food establishments for possible pollutant discharge violations against the Maricopa County Health Code.	ESD	FY16 LOV Receipt.pdf FY116 LOVs.pdf
		Staff performing inspections (at least one staff)		12/2009	2 The Stormwater Quality Program maintains 2 full-time	ESD	FY2016SWStaff.docx

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					inspector positions.		
		Percent of outfalls inspected for Fiscal Year (Minimum 20 Percent annually)		12/2009	Stormwater system mapping with locations of outfalls and receiving WoUS is in progress and is expected to be completed within 6 months, from the issue date of the new AZPDES Phase II permit. Since the inclusion of the expanded UUA in 2012 provided by the Census Bureau, the County has identified 385 outfalls, and 49% of these have been found in the UUA during FY2016. Maricopa County is performing a two stage field screening process. During the first stage, the outfalls and other MS4 structures were/are mapped. During the second stage, staff have been performing inspections of the SWMP approved 20% of outfalls. 306 outfall inspections and 3,523 MS4 inspections were conducted during FY2016. Dry weather inspection of outfalls accounted for the majority of outfall conducted with a total of 300, while wet weather monitoring inspections were conducted 6 times. All inspections of the MS4 include documentation of site characteristics and any observable flow. Any observed illicit discharges or evidence of illicit discharges are traced to their source.	ESD	GIS map and inventory
		Percent of outfalls inspected in total	12/2009	OUTFALL_INSPECTIONS_FY16.xls			
3.2 Implement a complaint response program							
		Complaints received		12/2009	2,694 total complaints This total number of complaints includes 2,674 processed by MCDOT and 20 processed by ESD.	ESD MCDOT	Minimum Control Measure FY16 SW FY16 Complaints.pdf
		Enforcement actions taken		12/2009	6 LOVs issued	ESD	Accela Data Base

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					Letters of Outstanding Violations (LOVs) are utilized as the first step in enforcement measures due to possible violations of the Stormwater Quality Management and Discharge Control Regulation. All LOVs were addressed without need for further enforcement measures.	MCDOT	FY16 LOV Receipt.pdf FY116 LOVs.pdf MCDOT SW Annual Report FY16.pdf
		Average Complaint Response time(days) (≤ 15 days)		12/2009	100%	ESD MCDOT	
		Complaint type(s)		12/2009	Grey water discharge, non-stormwater discharges, construction without permit, road debris, illegal dumping, pool water discharges, and hazardous material responses.	ESD MCDOT	
3.3 Educate businesses and the general public about hazards associated with illegal discharges to storm sewer systems							
		Distribute 5,000 Pamphlets annually		12/2009	Completed and ongoing	ESD	OutReachActivity 2016.xlsx
		Number of pamphlets distributed		12/2009	12,432 This total is the number of illicit discharge prevention materials that were provided at events and includes web information downloads about illicit discharges into the storm sewer system.	ESD	Minimum Control Measure FY16
4 Construction Site Stormwater Runoff Control							
4.1 Establish an enforcement mechanism to require erosion and sediment controls at construction sites ≥ 1 acre							
		Rules established		12/2009	Completed	ESD	MARICOPA COUNTY STORMWATER QUALITY MANAGEMENT AND DISCHARGE CONTROL REGULATION C-88-09-008-7-00 05/06/2009
		Rules drafted		12/2009	0 No new rules have been drafted. Maricopa County has a fully functional Stormwater Quality Regulation for permit compliance requirements.	ESD	
		Newly established rules		12/2009	Completed	ESD	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
4.2 Review and update Maricopa County construction site BMP Manual							
		Research BMPs for Vol. III 2009 update		12/2009	Completed	FCD	ErosionControlManual.pdf
		Additional updates or changes made		12/2009	The final edition of the Drainage Design Manual, Erosion Control was issued July 2012.	FCD	
4.3 Review plans and permit applications							
		Implement plan review process		12/2009	Completed	ESD	
		Staff performing plan review		12/2009	1	ESD	FY2016SWStaff.docx
		Number of permit applications reviewed		12/2009	16	ESD	Minimum Control Measure FY16 Construction Data Base
4.4 Establish a stormwater inspection program							
		Number of Stormwater inspections		12/2009	42 total inspections 17 pre-construction and 25 routine construction BMP inspections. Inspection frequency is determined by construction phase, proximity to Impaired and Outstanding Arizona Waters, project deration and the level of risk of discharge from project.	ESD	Construction Data Base GIS Map and Inventory
		Problems observed		12/2009	3 problems with BMP installation were noted during this reporting year. Each problem was corrected and verified by a re-inspection.	ESD	
		Enforcement actions taken		12/2009	0 Letters of Outstanding Violations have been issued.	ESD	
4.5 Establish a complaint response program							
		Number of construction complaints received		12/2009	2	ESD	SW FY16 Complaints.pdf Accela Data Base
		Type of construction complaints		12/2009	Operating a construction site without a permit.	ESD	
		Construction complaint response times (<15 days)		12/2009	All construction complaints are responded to in less	ESD	

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					than 15 business days.		
		Enforcement actions taken on construction sites		12/2009	0 0 Letters of Outstanding Violations have been issued.	ESD	
4.6 Provide educational information on the County's Stormwater Website							
		Active web pages for construction		12/2009	3	ESD	
		Number of webpage hits		12/2009	440,817 pre-construction web page views and 1,519 pre-construction applications have been downloaded. In addition, the STORM sponsored AZ Stormwater Summit 2016 was attended by 135 person an included presentations on the Construction General Permit among other Stormwater Pollution Prevention presentations.	ESD STORM	Minimum Control Measure FY16 STORM-FY16-AnnualReport.pdf Webtrends Analytics Reports
5 Post construction Stormwater Management in New Development and Redevelopment							
5.1 Develop and adopt technical guidance materials							
		Review and develop technical guidance		12/2009	Completed and ongoing	ESD	Minimum Control Measure FY16
		Available on County Website		12/2009	Completed and ongoing	ESD	
		Distribute guidance materials annually (Minimum 500)		12/2009	Completed and ongoing	ESD	Webtrends Analytics Reports
		Number of materials distributed		12/2009	440,817 web page views recorded. 4,292 post-construction application and post construction related materials were down loaded.	ESD	
		Method of distribution		12/2009	Internet pages views and web information downloads.	ESD	
5.2 Review plans and permit applications							
		Implement plan review process		12/2009	Completed	ESD	
		Staff person for plan review		12/2009	1	ESD	FY2016SWStaff.docx
		Number of permit applications reviewed		12/2009	7	ESD	Construction Data Base

MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
							GIS Map and Inventory
5.3 Conduct construction site inspections							
		Establish stormwater inspection program		12/2009	Completed		
		Number of Inspections performed		12/2009	18 total post construction inspections.	ESD	GIS Map and Inventory FY16 LOV Receipt.pdf FY16 LOVs.pdf
		Number of Violations observed		12/2009	6	ESD	
		Number of Corrective actions required		12/2009	6	ESD	
		Number of Enforcement actions performed		12/2009	6 letters of outstanding violation were issued. Each letter of outstanding violation was due to failure to submit for applicable permits and each occurrence was resolved.	ESD	
5.4 Create and distribute educational materials for the development community							
		Create and publish educational materials for development		12/2011	Completed and ongoing.	ESD	Minimum Control Measure FY16
		Distribute 500 annually		12/2011	Completed and ongoing.	ESD	
		Number distributed		12/2011	440,817 web page views and 4,292 down loaded documents recorded.	ESD	
6 Pollution Prevention/Good Housekeeping for Municipal Operations							
6.1 Maintain a regular street sweeping program							
		Maintain a regular street sweeping program		12/2009	Completed and ongoing	MCDOT	
		Number of miles swept		12/2009	7,622 miles	MCDOT	
		Frequency of sweeping		12/2009	16 week frequency for arterial streets 8 week for residential 2 week for special cycle streets	MCDOT	MCDOT SW Annual Report FY16.pdf
6.2 Evaluate County facilities with regards to pollution prevention practices							
		Number of County facilities inspected/yr. (Minimum 20%/yr.)		12/2011	154 (35.5%% of the County facilities)	ESD EQSR	EQSRS Stormwater Annual Report Signed.pdf GIS Map and Inventory
		Total number of facilities		12/2011	433		
		Number of Inspections		12/2011	1226 total inspections		

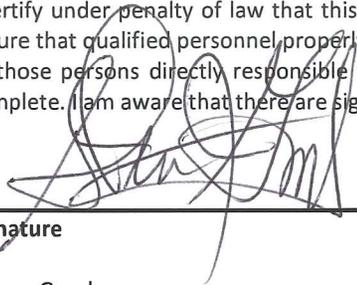
MCM	BMP	Measurable Goal	New or Revised	Start Date	Implementation Status / Frequency / Achievement All numbers reported in this column were performed during this reporting year.	Responsible Entity	Documentation
					This number includes 1072 Maricopa County Equipment Services Department (EQSR) inspections of 4 facilities with inspections daily, quarterly, and annually and the 154 Stormwater Quality Program inspections.		
		Recommendations for change (Minimum 2/yr.)		12/2011	3 recommendations were made. Maricopa County Integrated Health System Emergency spill procedures sign. West 101 Business Center Storm Basin maintenance.		Emergency procedures sign.pptx SW Improvement 01.msg SW Stormwater Structure 02.msg
6.3 Development of a centralized, County-wide employee education and training program regarding pollution prevention							
		Number of educational workshops (Minimum 2/yr.)		12/2009	7 in person workshops were provided, which included 5 MCESD workshops and 2 department annual trainings. Additionally, 6 online training workshops were made available. Online training workshops were taken a total of 354 times. These workshops were made available to all staff that might have the potential to see stormwater pollution or work with potentially polluting materials as a part of their job.	ESD EQSR FCD Facilities MCDOT Parks RISK	fy16 employee training master.xls SW16 MCESD Sign in Logs.pdf
		Number of staffed trained		12/2009	365 employees trained from 14 departments. 287 employees attended an in-person workshop while 6 online workshops were taken by 81 employees. Some employees took both in-person and multiple online workshops.	ESD EQSR FCD Facilities MCDOT Parks RISK	fy16 employee training master.xls SW16 MCESD Sign in Logs.pdf

C.b. Stormwater Management Program Changes

- Only a minor revision of terminology in MCM 1, BMP 1.2. The term “PSA” will be replaced with “multi-media outreach”. Multi-media outreach better describes the many outreach activities conducted for permit compliance. This change will take place the next reporting cycle for organizational purposes.

D. Certification (40 CFR 122.22)

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 the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Signature

8/30/16

Date

Steven Goode

Name (printed)

Director

Title

E. Attachment

Acronyms

AP	Maricopa County Adult Probation Department
AQ	Maricopa County Air Quality Department
EQSR	Maricopa County Equipment Services Department
ESD	Maricopa County Environmental Services Department
FACILITIES	Maricopa County Facilities Department
FCD	Maricopa County Flood Control Department
MCDOT	Maricopa County Department of Transportation
OET	Maricopa County Office of Enterprise Technology
P&D	Maricopa County Planning and Development Department
PARKS	Maricopa County Parks Department
RISK	Maricopa County Risk Management Department
HR	Maricopa County Human Resources Department
SO	Maricopa County Sheriff's Office
SC	Maricopa County Superior Court
STORM	STormwater Outreach for Regional Municipalities
SWQP	Stormwater Quality Program
WoUS	Water of the United States
WRR	Maricopa County Waste Resources and Recycling

Instructions (From the official report form)

Regulated Municipal Separate Storm Sewer Systems (MS4s) must submit annual reports to Arizona Department of Environmental Quality (ADEQ) for each year of the permit term. In compliance with the MS4 General Permit, an MS4 must annually review its Stormwater Management Program (SWMP) in conjunction with the preparation of the annual report. This document is a suggested format for annual reporting.

Submit a signed copy of your annual report no later than September 30 of each year to:

Arizona Department of Environmental Quality
Surface Water Section/ Stormwater & General Permits Unit (5415A-1)
1110 West Washington Street
Phoenix, AZ 85007

Additional Information - From Part B.3.b of the report

B.3.b. Impaired waters within 10 miles of the MS4's jurisdiction. YES X NO

- The Salt River, Gila, and Hassayampa Rivers have been previously noted as impaired for Chlordane, DDT, and Toxaphene. However, on March 10, 2015, ADEQ requested from the U.S. Environmental Protection Agency that the above listed waters be removed from the Arizona Impaired Waters List. This request was approved August 7, 2015 and made public in ADEQ News Release, September 30, 2015.
 1. Chlordane is an organochlorine insecticide. It was banned in 1983, but is very persistent in the environment and may remain in soils for 20 - 30 years before it breaks down. It was used to control insects on crops. Chlordane is very stable in the environment.*

2. DDT (dichlorodiphenyltrichloroethane) is an organochlorine insecticide. It was banned in 1972 but is persistent in the environment, taking between 12 to 15 years or more to break down and commonly causes fish consumption advisories. Its uses include combating malaria, typhus, and the other insect-borne human diseases and for insect control in crop and livestock production.*
 3. Toxaphene, also known as camphechlor, chlorocamphene, polychlorocamphene, and chlorinated camphene, is an organochlorine insecticide. It was banned by the EPA in 1982. Relatively nontoxic to bees, toxaphene was used to control insects on cotton, corn, fruit, vegetables, and small grains as well as to protect livestock from such pests as lice, fleas, ticks, mange, and scab mites. Persistent in nature, it remains in soil for up to 14 years.*
- Canyon Lake is impaired for Dissolved Oxygen. This waterbody does not receive a direct discharge from the County UUA.
 - Chaparral Park Lake is impaired for Dissolved Oxygen and E. Coli. This waterbody does not receive a direct discharge from the County UUA.
 - Alvord Park Lake is impaired for un-ionized Ammonia; no TMDL's have been established. This waterbody does not receive a direct discharge from the County UUA.
 - Cortez Park Lake is impaired for Dissolved Oxygen and pH. No TMDL's have been established. This waterbody does not receive a direct discharge from the County UUA.
 - Lake Pleasant is impaired for Mercury due to Mercury in fish. No TMDL's have been established. This waterbody does not receive a direct discharge from the County UUA.

Assessment

According to 40CFR122.34(g) and Part F.1. of the permit, Maricopa County is to evaluate how the Stormwater Management Program (SWMP) complies with permit requirements, and according to the 40CFR122.34(i) and part G.1.a of the permit, the county is to report:

1. The status of compliance with permit conditions,
2. An assessment of the appropriateness of the identified best management practices,
3. Progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and
4. The measurable goals for each of the minimum control measures;

As referenced in Part F.1. of the permit, since there are no impaired waters that receive direct discharges from the MS4, measurable goals do not contain numeric pollutant reduction levels, and water quality monitoring of outfalls has not been performed. The information for condition 3 and 4, listed above, may be observed in table C.a. of the report, while condition 1 and 2 may be seen in the following narrative:

Due to a lack of impaired waters, lack of waters with a TMDL receiving a direct MS4 discharge, and the recognition that implementing practices consistent with the permit through an approved Stormwater Management Program (SWMP) constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable" (MEP), the Maricopa County Stormwater Quality Program provides the following assessment of the SWMP activities, and believes these practices represent compliance with the goal of pollution reduction in stormwater runoff to the MEP.

With a lack of surface waters available for ambient water quality monitoring, and the general understanding of population and business types in the region, a list of presumed pollutants was created. The pollutant sources include pesticides, herbicides and fertilizers; fats, oils, and greases; yard debris; waste from residential and small business; pet waste; petroleum spills; construction trash, debris, and sediment.

MCM 1

The permit requires a public education program which includes the distribution of educational materials or an equivalent measured in public outreach activities.

The approved SWMP indicates that at a minimum the County must distribute 500 brochures or educational material to the public. The County has provided over 14,180 brochures and other printed educational materials to the general public and has recorded 80,192 webpage views and 6,368 webpage downloads. The STORM movie campaign, Facebook page, BEN and the billboard initiative received over 36,000,000 views and impressions. The public outreach activities are centered on cultivating a deeper understanding of the County's Stormwater pollution prevention plan. Public outreach activities are part of organized events and held at locations such as the Maricopa County Fair Grounds, regional libraries, public parks, the Phoenix Zoo, community colleges and other public settings. 47 public outreach events were conducted reaching over 6,000 people with the stormwater pollution prevention message in 16 cities throughout Maricopa County. The School Outreach Program focuses on in person classroom education. 5 hands-on, grade specific, classroom workshops were developed and delivered to K-8th grade students within Maricopa County. A total of 168 educational outreach programs were provided in FY16. The educational outreach program was provided to 34 schools in 12 cities reaching 4785 students. In addition, The School outreach program was honored by receiving an award from the National Association of Counties for the school outreach program.

According to the 2010 Census the total population of the county is 3.8 million, and the UUA population is approximately 150,000; thus we have far exceeded our population in our outreach efforts. The permit requires for the County to have a target audience: Our population is too separated in island areas to focus on a specific population type; therefore, use of demographic information from the Census Bureau is required to make a determination on the average population group that might exist in our UUA. According to the 2010 Federal Census Bureau, 60% of the population in Maricopa County is white, 30% is Hispanic, and other cultures are less than 10% of the remaining population. No known pollution concern exists for the cultural activities associated with the known population groups in the Unincorporated Urbanized Area; therefore, English and Spanish language speaking general public, and school children, as approved in the SWMP, remains an appropriate target audience.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the maximum extent practicable (MEP).

MCM 2

The permit requires public involvement and participation in the approved SWMP.

The County has fulfilled this minimum control measure by ensuring public involvement through open forums, such as public workshops and meetings to discuss SWMP implementation. The County has ensured public access by maintaining a hotline and by recognizing and considering citizens comments. The success of the poster contest is a great example of public and private collaboration, which focuses on educating school aged children on the importance of pollution prevention. The Stormwater survey is an additional method used to gauge the public's awareness of Stormwater pollution prevention. The survey results and any additional feedback are used to help direct future public outreach activities. Further actions taken by the County include participating in public street cleanup events organized by MCDOT's Adopt a Highway Program and other volunteer events, such as the Tres Rios Cleanup activity that focuses on trash clean up in natural drainage ways and rivers.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM3

Stormwater sewer system mapping with locations of outfalls and receiving WoUS is in progress and is expected to be completed within 6 month, from the issue date of the new AZPDES Phase II permit. Since the expansion of the UUA, 100% of the 150 square miles have received storm sewer structure and outfall inspection activities. The majority of all outfalls and structures have been identified and any remaining will be identified in the process of system mapping. The current mapping process can be described in two stages. The first stage includes locating outfalls and structures while following illicit discharge detection elimination objectives. Stage two is the routine inspections of a percentage of the number of known outfalls per year, verify ownership of Stormwater structures, and map municipal linear Stormwater structures. In addition one of the main goals for these activities is to enhance citizen knowledge on Stormwater pollution prevention for the purpose of increasing awareness and feedback to the County. The County offers fact sheets online and at public events and maintains an effective public outreach program and distributes brochures and other educational materials.

The Stormwater Quality Program employs 2 full-time inspectors. Their tasks include Illicit Discharge/Improper Disposal inspections, dry weather outfall screening, wet weather outfall screening, mapping of Stormwater structures, a general review of the MS4 and responding and investigating citizen complaints. 306 outfall inspections were conducted and 3,523 MS4 inspections were conducted during FY16. Dry weather screenings accounted for the majority of all inspections conducted. Dry weather screening includes inspecting every part of the observable storm system, looking for illicit discharges, documenting all observed potential illicit discharges and backtracking flows to their source. Additionally, 6 wet weather inspections were conducted in FY16. Since the last update of the UUA, the County has found 385 outfalls, of which 49% were found during FY16. All of the waters of the US have been mapped. This map work has been ongoing since its inception in 2009 and is still under way.

A total of 2,694 complaints were processed, which includes 2,674 from MCDOT, and 20 from ESD.

No official legal action has been taken in FY16. A total of 6 letters of outstand violations (LOVs) were drafted and issued due to probable violations regarding the Stormwater Quality Management and Discharge Control Regulation. All issued LOVs were resolved with no further legal action needed. Records of all complaints and probable violations are documented in the ESD complaint system.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM 4

The Permit calls for a program to provide Stormwater Pollution Prevention education to the construction industry, legal authority to require E&S and waste controls, a review of plans for potential water quality impacts, erosion, sedimentation, and waste control, a review of plans before construction to verify that the plans are appropriate, and to have a method for site inspection and enforcement.

The SWMP commits the county to:

- Developing a regulation and enforcement mechanism to require erosion, sedimentation, and waste controls on construction sites. This was initiated as a program in 2009 and is still exists.

- Reviewing and updating of the BMP manual. This was reviewed and was finally updated in 2012. Further products have been reviewed for new technologies, but no updates have been considered for the manual.
- Reviewing plans and permit applications was committed to be performed, with the measurable goal of implanting the plan review process and having one staff position to assist in the plan review needs. This position has been created in 2009 and remains an active part of the program. In FY16, 16 plans were submitted and reviewed by the program engineer.
- Establishing a stormwater inspection program with a measurable goal of reporting the overall inspection activity including the number of inspections, the types of problems identified and enforcement actions. In FY 16, the program conducted 42 construction inspections.
- Establishing a complaint response program. This complaint response program has been in place since 2009, and remains active through this reporting year. The program received only 2 complaints regarding construction in FY16.
- Providing education on the stormwater website. This activity has been conducted each year since 2009, and has remained in effect through this reporting year. Education during this reporting year included educational material handouts, free information made available online and direct contact with developers as they applied for permits through various county sources. The County's participation with STORM outreach events also educated the regulated community.

The program is effective in reducing trash and sediment to the MS4 by ensuring plans require and site staff are aware of and frequently reminded of the requirements of the BMP implementation.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM 5

The approved SWMP requires the County to provide updated education and guidance material to at least 500 customers on an annual basis. There were over 440,817 page views that provided educational materials to customers and 4,292 post-construction applications and post-construction related materials downloaded in FY16. There was a total of 18 post construction inspections performed, which include initial and routine inspections. According to the procedure, an operational and maintenance plan are approved and implemented for the property. Upon completion of site development, an initial inspection is performed succeeding an approved post-construction plan and future routine inspections are recurring. No update to the technical guidance drainage design manual has occurred since 2009.

Due to the limited nature of completed stormwater structures that might discharge into our MS4, the actions performed by the County to date are appropriate for the impact that these systems might have on allowing pollutants into our storm system.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.

MCM6

The permit calls for an Operation and Maintenance Program that includes training and the SWMP commits the County to the following:

- Street sweeping with an anticipation of 4000 miles swept annually,
- An evaluation of at least 20% of the County owned facilities and a recommendation for change for at least two sites each year. And,

- A staff education program, with at least two workshops each year.

The County has a regular street sweeping program that has performed 7,622 miles of sweeping during this reporting year. There are an estimated 433 facilities owned by the county, of which 154 were evaluated this year, which equates to 35.5% of County owner facilities receiving inspections. 3 locations received recommendations for change to structural controls for pollution prevention concerns. There were 7 in person workshops, 5 MCESD in person workshops, and 6 workshops made available online that reached a total of 365 employees. Training was focused to those employees that work with pollutants or work in the UUA and might see pollutants.

The County has achieved permit compliance through the strategic actions and activities that are documented in the SWMP and results shown in this annual report. The County has shown, through its Best Management Practices, the ability to remove the presumed pollutants to the MEP.



Douglas A. Ducey
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Misael Cabrera
Director

September 7, 2016

Reading file: SWGP16-0187

Carl D' Acosta
Stormwater Program Supervisor
Maricopa County Environmental Services Department
1001 N. Central Avenue, Suite 300
Phoenix, AZ 85004

Re: Review of the Maricopa County Environmental Services Department; Quality and Compliance Division; Stormwater Quality Program; 2016 Annual Report

Dear Mr. D' Acosta:

The Arizona Department of Environmental Quality (ADEQ) received the Maricopa County Municipal Separate Storm Sewer System (MS4), Phase II FY2016 Annual Report on August 30, 2016. ADEQ has completed its review and determined the amended annual report satisfactorily complies with the permit requirements.

Recommendations

The suggestions below are not required by State law and there are no legal consequences should you choose to disregard them; however, ADEQ appreciates your cooperation and asks you to consider the following:

ADEQ is currently drafting a new Phase II MS4 permit that will include an updated annual reporting form. The new form will include specific reporting requirements to assist the city with assessing its progress and for ADEQ to better assess permit compliance. ADEQ suggests the city review the draft permit to evaluate the current program and opportunities.

How to Submit

Please submit all documents sent in response to this letter using one of the following methods:

- Hard copy to ADEQ, Attention: Spencer York, Stormwater and General Permits Unit, 1110 W. Washington Street, Phoenix, AZ 85007
- E-mail to: syl@azdeq.gov

Thank you for your efforts to comply with Arizona's environmental requirements. Should you have any comments or questions regarding this matter, please do not hesitate to contact me at (602) 771- 4509 or syl@azdeq.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Spencer J. York", with a long horizontal flourish extending to the right.

Spencer J. York, Project Manager
Stormwater and General Permits Unit