Arizona Pollutant Discharge Elimination System (AZPDES) Stormwater Phase II Permit Program

CITY OF YUMA
Revised Stormwater Management Program

In Compliance with the
Arizona Pollutant Discharge Elimination System (AZPDES)
General Permit (Permit No. AZG2002-2) for Discharge from
Small Municipal Separate Storm Sewer Systems (MS4s)
to Waters of the United States

Last Updated: April 25, 2016

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Introduction

The City of Yuma Stormwater Management Program (SWMP) has been revised to satisfy the remarks sent by the Arizona Department of Environmental Quality (ADEQ) in their letter dated September 20, 2009 and their audit letter dated April 5, 2013 as well as the need to prevent or reduce discharges of pollutants to Waters of the United States. The Program specifically considers the six Minimum Control Measures (MCMs) outlined in the ADEQ General Permit AZG2002-002 for small municipal separate storm sewer systems (MS4s) and an Additional Control Measure (ACM) to address the prevention of introduction of 303(d) listed pollutants to the Colorado River.

The best management practices (BMPs) presented here have been proposed because they address the MCMs, are appropriate for the City of Yuma's stormwater system, are measurable, are anticipated to make improvements in the City's stormwater quality, and are achievable. For each BMP, the appropriate measurable goals are delineated along with a schedule that includes an indicated frequency of planned actions, interim milestones, and a date by which the BMP implementation will be established. Standard Operating Procedures (SOP) have been added to MCM No. 3 (Illicit Discharge Detection and Elimination), MCM No. 4 (Construction Site Runoff Control), MCM No. 5 (Post-Construction Runoff Control) and the ACM No. 1.

MCM 1: Public Education and Outreach

Public education and outreach is an important MCM for which the City of Yuma has extensive resources and experience. The City has a long history of designing and implementing active education and outreach programs. In order to reach citizens with targeted messages regarding the City's SWMP and their role in it, the City has employed print media, cable television, radio, posting regular stormwater articles in English and Spanish language newspapers, and the City's website.

Targeted pollutants are floatables including trash, sewage, and illicit discharges including oil and grease. These pollutants were selected because an informed public can make a significant reduction in these pollutants. The City will assess other pollutants during the permit period and will address them in the City's education program as appropriate. The target audience is both the City's resident and transient populations. It is estimated that this education program will reach approximately 45,000 full time residents of the City of Yuma over the 5-year program period. This represents about 40% of the City's current population.

Responsible Department: City Administration

Responsible Positions: Ricky Rinehart – Deputy City Administrator

BMP 1: Distribute educational materials about stormwater

The City, as part of its public education and outreach activities, has distributed and is continuing to distribute printed educational materials to City residents. These materials, which are an effective medium for educating the general public.

Permit Requirement Citation: Part V, Section B.1.a.

Activity: Distribute bilingual educational materials about stormwater to City residents.

Objective: Educate the general public on the City's SWMP; provide contact numbers and addresses for any questions. In addition, this approach is to raise a general level of awareness of actions the public can take to help protect overall water quality and specifically limit impacts on stormwater runoff.

Interim Steps and Schedule:

Make educational materials available to public	January 2008, ongoing throughout the permit period. Last updated July 2013.

Measurable Goals: Printed educational materials available to the public in December 2012 and distributed using existing outlets at City buildings, meetings attended by the general public and by request.

The City of Yuma telecasts the program City Outlook and is using this program to inform City residents of stormwater issues.

Permit Requirement Citation: Part V, Section B.1.a.

Activity: Produce and telecast Public Service Announcements (PSAs) on stormwater issues on City News program on local cable television.

Objective: Inform the general public on stormwater pollution prevention methods and issues via cable television.

Interim Steps and Schedule:

Develop PSAs	July 2003 – July 2004
Telecast PSAs	August 2004; ongoing throughout the permit period. Message updated in July 2013.
PSA running at least twice a day	March 2015

Measurable Goals: Produce one stormwater PSA for telecast annually and run each month, varying times and days of the week to ensure reaching as broad an audience as possible. Include in overall assessment of the cable television programming to evaluate whether the message has been received and if the subject matter is effective.

In the past, the City has included public interest information on the City Page in the Yuma Sun. The City can easily and cost-effectively include educational information about stormwater for inclusion in the City Page and reach a broad cross-section of the public.

Permit Requirement Citation: Part V, Section B.1.a.

Activity: Produce and print stormwater pollution prevention educational message in local newspaper.

Objective: Inform the general public on stormwater issues via the newspaper.

Interim Steps and Schedule:

Prepare stormwater messages for newspaper	September 2013
Print stormwater message in newspaper	November 2013 and ongoing throughout the permit period.

Measurable Goals: Publish a message about stormwater on the Yuma Sun and Baja Del Sol by November 2013. Stormwater messages will be printed at least annually. Information regarding the SWMP and NOI will be included.

The City maintains a website. Adding stormwater program information is practical and cost-effective for the City.

Permit Requirement Citation: Part V, Section B.1.a.

Activity: Implement, maintain, and update as necessary stormwater educational messages on the City of Yuma website with links to appropriate web pages (such as those of the EPA and ADEQ) and with a link to the e-mail of the City's contact person.

Objective: Provide useful SWMP information to the public via the City of Yuma website.

Interim Steps and Schedule:

Coordinate and produce a draft of the website	April 2004 – June 2004
Public information added to the website	August 2004
Update the website	June 2009; ongoing throughout the permit period.
Update the website	Updated on June 2015.

Measurable Goals: Stormwater information, including copies of the SWMP and NOI, with links to other resources, had been available on the City of Yuma website since August 2004. The City updates the information to keep it current and change the methods of publicizing, if necessary, to increase website utilization as appropriate.

MCM 2: Public Involvement/Participation

To meet the requirements of the General Permit, prior to submitting the first annual report to ADEQ, the City of Yuma held a public hearing at a regular City Council meeting, complying with public notice requirements offering an opportunity for the public to give advice and guidance on BMPs and the overall SWMP. Also, during the renewal of this permit in the future or on the schedule for renewal as established by ADEQ, the City will provide an opportunity for the public to provide input into the SWMP for the next permit cycle and will meet all public notice requirements. For public accessibility, the City has posted a copy of its SWMP and Notice of Intent (NOI) through the web page and in City Hall. Annual reports are also available to the public and the City will follow all public notice requirements as required by permit.

The City of Yuma recognizes the benefits of direct involvement in the City's SWMP by its citizens. It is the City's experience that many residents are dedicated to providing input to the City on a wide range of issues and willing to serve as volunteers.

Responsible Department: City Administration

Responsible Position: Ricky Rinehart – Deputy City Administrator

MCM 2: Public Involvement/Participation

BMP 1: Continue compliance with state and local public notice requirements

The City complies with state and local public notice requirements.

Permit Requirement Citation: Part V, Section B.2.b.

Activity: Comply with public notice requirements for any newly created or revised ordinances; public discussion of the SWMP and NOI with the City Council or any other opportunity for public input into the program.

Objective: Make the public aware of new ordinances and allow the public to participate in adopting ordinances that affect the implementation of the SWMP.

Interim Steps and Schedule:

Continue compliance with applicable public notice requirements	Ongoing throughout the permit period

Measurable Goals: Continued compliance with public notice requirements throughout the permit period, documenting public meetings, notices provided and comments or input received, reporting in an annual summary of activities to the State.

MCM 2: Public Involvement/Participation

BMP 2: Conduct Annual Stormwater Catch Basin cleanup Program at Priority Area

The City of Yuma forces will conduct, starting April-June 2015, an annual cleanup program for catch basins at the Priority Area (PA). Three areas in the PA have been identified in the monitoring program. The program will start this fiscal year (2014-2015) with the target of cleaning all catch basins in the PA at least every three years.

Permit Requirement Citation: Part V, Section B.2.c.ii.

Activity: Include stormwater educational materials to City Administration to inform the public of City efforts.

Objective: During the past years, the City has coordinated with volunteers to conduct cleanup events with the assistance of other public agencies. Attempts with Yuma Clean and Beautiful Commission to clean outfalls at the River were not successful due to safety concerns. City Engineering has a plan, in coordination with Utilities department, to cleanup the stormwater catch basins at the Priority Area (P.A) in a period of three years.

Interim Steps and Schedule:

Clean 111 catch basins at Madison Ave and 9th Ave contributing areas	Expected to complete by June 2016
Clean 134 catch basins at 17th Ave and 19th Ave contributing areas	Expected to complete by June 2017
Clean 56 catch basins at Pacific Ave storm drain contributing area	Completed in early June 2015

Measurable Goals: City Utilities Department finished cleaning 56 catch basins in the Pacific Ave storm drain in the first week of June 2015. The program will continue and expected to cover all catch basins draining to Colorado River by June 2017.

MCM 2: Public Involvement/Participation

BMP 3: Hold a public hearing on the SWMP and NOI

The City held a public hearing on the SWMP after it was submitted to ADEQ to gather comments on the SWMP. ADEQ will be notified of any changes or modifications to the SWMP coming from public comments.

Permit Requirement Citation: Part V, Section B.2.c.ii.

Activity: Allow the public to provide input on the initial SWMP.

Objective: Involve the public in implementing the SWMP, receiving comments and amending the SWMP if appropriate.

Interim Steps and Schedule:

Develop the SWMP and submit it to the ADEQ	March 10, 2003
Hold a public hearing	April 2004
Receive and incorporate the public's comments into the SWMP as appropriate; notify the ADEQ of modifications	June 2004
New public hearing will be held with the new permit	After ADEQ adopts the new municipal permit

Measurable Goals: Held a public hearing in April 2004 and gathered public input. No comments were received for the current permit. A new public hearing will be scheduled after ADEQ announces the adoption of the new permit.

City staff intends to update the City Council, after filing of the Annual Report to ADEQ, in an effort to educate the Council and maintain program support.

Permit Requirement Citation: Part V, Section B.2.a.

Activity: Update the City Council annually on the status of the SWMP's development and implementation and when permit is renewed (or based on a schedule set by ADEQ).

Objective: Educate and involve the Council and the public in developing and implementing the SWMP.

Interim Steps and Schedule:

Provide a Council update on the SWMP	September 2004
Provide a Council update on the SWMP	September 2005
Provide a Council update on the SWMP	September 2006
Provide a Council update on the SWMP	September 2007
Council update on permit renewal	November 2007 or based on renewal schedule from ADEQ.
Provide a Council update on the SWMP	Annually in October/November. Joshua Scott, P.E., City Engineer provided a 30 minutes PowerPoint presentation on June 16, 2015 City Council Work session.

Measurable Goals: Update the Yuma City Council annually, to provide input into the annual report of the following year and for any amendments to the SWMP. Document comments from the general public and report on input received in each annual report. Latest update provided to City Council on 6/16/2015.

MCM 3: Illicit Discharge Detection and Elimination

The City of Yuma recognizes the potential for illicit discharges to its MS4 and is committed to addressing this concern. The BMPs are targeted toward known and potential illicit discharges. The Yuma City Code contains many references to garbage, refuse, and nuisances, but no disposal ordinances are specific to the City's MS4.

Because of the annual influx of winter visitors, the City has experienced issues with improper disposal of sewage from recreational vehicles (RVs). The City also has experienced illegal dumping of other materials, such as used oil and grease, in some areas of the City.

For purposes of permit compliance, the City has developed and implemented an ordinance, with enforcement strategies, that has prohibited the discharge of non-stormwater into the public drainage system and identified incidental non-stormwater discharges that are allowable.

The City is utilizing the following detection methods:

1. Dry weather monitoring of outfalls
2. A complaint hotline to receive reports from the public to detect illicit discharges.
3. During their field inspections, Public Works crews and Community Development building Inspectors will report any illicit discharge or illegal dumping to the MS4. (Opportunistic Inspections).
4. The City keeps registers to document its dry-weather monitoring program, hotline complaints and complaints reported by staff. The City also has an investigation system for tracing illicit discharges and illegal dumping with full coordination of Code Enforcement staff in Public Works and Community Development Departments. If required, the City will send samples of any non-stormwater substance detected in its MS4 to a State-approved laboratory for testing.

Through the public education minimum control measure, the City will educate the public and City employees on the hazards of illegal discharges and dumping in the drainage system.

The City considers the following discharges, which are listed in Part I, Section C.2. of the AZPDES Small MS4 General Permit to be allowable non-stormwater discharges:

1. Water line flushing,
2. Landscape irrigation,
3. Diverted stream flows,
4. Rising ground water,
5. Uncontaminated ground water infiltration,
6. Uncontaminated pumped ground water,
7. Discharges from potable water sources,
8. Foundation drains,
9. Air conditioning condensate,
10. Irrigation water,
11. Springs,
12. Water from crawl space pumps,
13. Footing drains,
14. Lawn watering,
15. Individual residential car washing,
16. Discharges from riparian habitats and wetlands
17. De-chlorinated swimming pool discharges
18. Street wash water, and
19. Discharges or flows from emergency fire fighting activities.

Responsible Department: Department of Public Works

Responsible Position: Joel Olea, Director of Public Works

Standard Operating Procedure (SOP)

This SOP describes the procedures that can be used to support Chapter 194 of Yuma City Code "1Illicit Discharge Detection and Elimination (IDDE)". The IDDE program is intended to protect the City Municipal Separate Storm Sewer System (MS4) from illicit discharges and illegal dumping. This SOP offers the below steps to identify, locate and eliminate or reduce the illicit discharge and dumping into the City MS4. This SOP will be revised with the SWMP as necessary. The City will start implementing the following steps:

1. Locate important areas and locations likely to have illicit discharges with proximity to the City MS4 and surface waters. The following will be classified as priority areas:
    a) All stormwater outfalls at the Colorado River. This area includes all drainage areas that contribute to outfalls at the River. Use of previous drainage studies and land use will be utilized to better identify drainage areas.
    b) Commercial and industrial facilities north of 8th Street, east of Avenue B and west of Main Street including but not limited to areas of public assemblies such as parks, hotels, churches, movie theaters etc.
    c) Shopping malls, educational facilities, exposed areas with proximity to Colorado River or with potential of discharging into the River.
    d) Areas within 2.5 miles of the Colorado River.
    e) Areas with historical or previous citizen complaints of dumping and littering; and
    f) As designated by the Director of Public Works.
2. Perform annual inspections of all stormwater outfalls at the surface waters per the Dry Weather Outfall Inspection Form.
3. Perform selenium and sediment monitoring per Monitoring Program , for any illicit discharge incident or during dry weather monitoring at outfalls at the Colorado River.
4. All important areas mentioned above will be shown into the current stormwater map/atlas.
5. Review and consider information collected when illicit discharge was initially identified in a previous incident or dry weather inspection.
6. Use visual inspections of upstream points as a second step (first step is the dry weather monitoring inspection) and document all results for future references.
7. Review procedures to remove the source of an illicit discharge.
8. Refer potential septic system failures to the local health office for enforcement.
9. Suspend public access to storm drain if threats to public health or serious physical harm to the public or the environment are possible.
10. Perform opportunistic inspections by staff crews while they are conducting their duties in and around the stormwater collection system. Staff is encouraged to contact dispatcher, supervisor, or code enforcement if they see evidence of an illicit discharge or illegal dumping into the storm drain.
11. Evaluate the IDDE program effectiveness and update the SWMP, as needed.
12. Plan, coordinate and perform a campaign to clean the Priority Area with City and public participation.

The City has developed and adopted an illicit-discharge ordinance that addressed all of the requirements outlined in the AZPDES requirements. The ordinance forms the basis for the overall illicit-discharge-elimination program.

Permit Requirement Citation: Part V, Sections B.3.a. and B.3.c.

Activity: Develop, finalize, and adopt a City ordinance that prohibits illicit discharges to the City of Yuma stormwater system, defining enforcement strategies and inspection procedures.

Objective: Empower the City to seek out and eliminate illicit discharges to the stormwater system. Define and prohibit illicit discharges to the City of Yuma's stormwater system. Allow for right of entry and inspection to find illicit discharges. Establish penalties for dumping, spills, and willful illicit connections.

Interim Steps and Schedule:

Develop the illicit-discharge ordinance	January 2004 – November 2004
Adopt the ordinance	March 2005
Added new SOP & new forms for inspections	Added in September 2013. Updated October 2014.
Review SOP for effectiveness	Throughout Permit period.

Measurable Goals: Adoption of an ordinance with enforcement strategies, such as fines not to exceed $1000 or by maximum imprisonment for ten days, or both, that prohibits illicit discharges to the City's MS4, empowers the City to take appropriate action to detect and eliminate illicit discharges and to address illegal dumping into the MS4 and provides for corrective actions, since March 2005.

The City inspects all stormwater outfalls during dry weather as a part of the overall program to detect and eliminate illicit discharges. Illicit discharge found during inspections will be investigated and eliminated.

Permit Requirement Citation: Part V, Section B.3.f.

Activity: Inspect stormwater outfalls during dry weather to identify outfalls and determine the possible existence of illicit discharges or illegal dumping activities.

Objective: Identify possible illicit discharges to the City's stormwater system and investigate the source of such discharges for the purpose of eliminating them.

Interim Steps and Schedule:

Inspect 25% of the City's jurisdictional boundary for stormwater outfalls	May 2008 – June 2008
Inspect 25% of the City's jurisdictional boundary	May 2009 – June 2009
Inspect 25% of the City's jurisdictional boundary	May 2010 – June 2010
Inspect 25% of the City's jurisdictional boundary	May 2011 – June 2011
Inspect north City outfalls	May 2012-June 2012
Inspect Priority Areas as identified in revised MCM No. 3 of the SWMP	Completed June 2015

Measurable Goals: Dry weather inspections of all known stormwater system outfalls performed at least once annually, and initiate investigation of illicit discharges and illegal dumping activities within 15 working days of discovery. Evaluate inspection program to ensure that procedures are effective in identifying potential problems during each calendar year and make adjustments as needed to inspection protocols. Per the SOP of MCM No. 3 inspection of outfalls at priority areas and all outfalls at surface waters will be conducted annually per the new Storm Dry Weather Outfall Inspection Form. This year inspection was completed in June 2015.

The City has developed an outfall map that noted the locations of stormwater system outfalls. The mapping effort was coordinated with the outfall inspection effort.

Permit Requirement Citation: Part V, Section B.3.b.

Activity: Update the City of Yuma stormwater map, with all outfalls per the new CIP projects and names and locations of Waters of the United States.

Objective: Create a complete and current map of stormwater facilities in the City of Yuma that supports the program to detect and eliminate illicit discharges.

Interim Steps and Schedule:

Update the current stormwater map for 50% of the jurisdictional boundary	January 2008 – June 2010
Update the current stormwater map for 50% of the jurisdictional boundary	July 2010 – July 2012
Complete an outfall map with all new locations	August 2012- December 2012
Update Stormwater map for accurate inventory	Completed in July 2014
Update Stormwater map to show priority areas per SOP of MCM No. 3	Next updating cycle (2014-2015)

Measurable Goals: Updating of a City of Yuma stormwater system map showing all outfalls to Waters of the United States annually. The stormwater system map has been updated effective July 2014. The Map will be modified to show the priority areas mentioned in the SOP of MCM No. 3. Work is in progress with the CIP-constructed projects. New atlas will be updated on November 2015.

The City has developed and distributed educational materials to the public. The educational materials are targeting the residential population and covering topics such as how to correctly maintain septic systems and dispose of household hazardous waste.

Permit Requirement Citation: Part V, Section B.3.e.

Activity: Educational materials regarding the hazards of illegal discharges to the stormwater system have been produced and distributed to the public, utilizing the public education tools developed in MCM 1. Distribute educational materials to City employees via informational letter or other means.

Objective: Inform the public of the hazards associated with illegal discharges to the stormwater system.

Interim Steps and Schedule:

Develop and produce the materials	July 2004 – January 2005
Distribute the materials	January 2008; ongoing throughout the permit period. Last distribution in July 2013.
Flyer about stormwater pollution to businesses in the Priority Area	September 2015

Measurable Goals: Generate, revise, or procure educational materials regarding illegal discharges; as needed and distribute these materials utilizing methods identified in MCM 1. Flyer about dumping pollutants into the stormwater drainage system is in the process. It targets City utility bill to businesses at the Priority Area. Flyer is scheduled to be sent in December 2015 after review by staff.

Measurable Goals: Generate, revise, or procure educational materials regarding illegal discharges; as needed and distribute these materials utilizing methods identified in MCM 1. Flyer about dumping pollutants into the stormwater drainage system is in the process. It targets City utility bill to businesses at the Priority Area. Flyer is scheduled to be sent in December 2015 after review by staff.

The City realizes that once the public awareness of illicit discharges is raised, citizen complaints are likely to increase. The City has developed a comprehensive complaint-receipt program that included all aspects of the City's SWMP. The complaint phone number has been advertised in public education materials noted in MCM 1.

Permit Requirement Citation: Part V, Section B.3.g.vii.

Activity: Develop complaint-tracking system to log and follow up in response to public inquiries and complaints concerning illicit discharges and dumping.

Objective: Effectively enforce the illicit discharge and illegal dumping ordinance through receipt of public input on potential hazards and problem sites.

Interim Steps and Schedule:

Develop written procedures for handling complaints	January 2004 – December 2004
Implement a program to receive and follow up on complaints	January 2008; ongoing throughout the permit period
New complaint-receipt record	Developed in September 2013. Will be updated after creation of inventory in the Priority Area.

Measurable Goals: In September 2013 a complaint-receipt program tracking the nature of concern and investigation follow-up for each complaint was in place. Analyze nature, location, and frequency of complaints to determine if procedures and outreach program is effective in addressing such hazards.

MCM 4: Construction Site Runoff Controls

The City does have an existing construction site stormwater runoff control program.
Responsible Department: Engineering Department

Responsible Position: Joshua M. Scott, P.E., City Engineer, Director of Engineering Department

Standard Operating Procedure (SOP)

This SOP describes the procedures that will be used to support Chapter 156 of Yuma City Code "Erosion and Sediment Control." This SOP offers procedures for inspections and enforcement of control measures at construction sites that fall under the umbrella of Ordinance O2006-38. This SOP will be revised with the SWMP as necessary. For construction sites located within ¼ mile of the impaired segment of Colorado River, refer to AMC No. 1 on this SWMP. The City will start implanting the following steps:

1. Prior to inspection, the City inspector will:
   a) Contact owner/contractor superintendent or project manager
   b) Bring camera, hard hat, project file, and Personal Protective Equipment in accordance with City Policy.
   c) Bring the SWPPP Construction Site Inspection Checklist for private development or CIP projects.
   d) Review previous inspection reports to determine reoccurring problems
   e) Identify if the project is located within ¼ mile of the Colorado River's impaired segment.
2. At the construction site, and before starting inspection, the City inspector will:
   a) Ensure that the project information sign is installed per City Construction Standard No. 8-100 (Work Zone Identification Sign) with the AZPDES approval number and date.
   b) Verify that SWPPP plans and narrative report, NOI and Permit No. AZG2013-001, as updated, are on site and accessible,
   c) Verify that all routine inspections, required by Contractor, are conducted with reports available on site and accessible. Routine inspections are conducted every 14 calendar days and within 24 hours of a previous storm 0.5 inches or more
   d) Review previous inspection reports to determine reoccurring problems,
   e) Review SWPPP changes or modifications from last inspection and whether such changes and modifications are updated in the SWPP report and plans,
   f) Review status of any corrective actions or deficiencies by, State or City, listed in the latest inspection report,
   g) Discuss with the owner representative, Contractor superintendent or project manager any complaint or incident that has occurred after the latest inspection,
3. At the construction site the City inspector will, at minimum, perform the following:
   a) Record time that inspection of BMPs starts and weather information such as temperature, rainfall within the last 72 hours, wind and clearness or cloudiness of sky.
   b) Determine if the site has evidence of release of any discharge from its boundaries,
   c) Determine if all BMPs are installed correctly and maintained adequately per the SWPPP report and plans. BMPs include erosion control measures, sediment control measures and good housekeeping measures
   d) Take photographs BMPs. The photo must indicate date and time of inspection and comment on the BMP,
4. Before leaving the site, the City inspector will:
   a) Discuss with the owner, contractor or project manager of the SWPPP the effectiveness of current controls and if modifications are needed.
   b) Identify a time frame for making modifications on site and SWPPP report and plans,
   c) Discuss with the owner, contractor or project manager any compliance or enforcement issues.
5. As a follow up after inspection, the City inspector will:
   a) Check the adequacy of SWPPP Construction Site Inspection Checklist for private development.
   b) Send documents to building inspectors for certificate of occupancy coordination.

c) City Public Works inspectors will conduct SWPPP inspections per CIP projects' Checklist. Records will be sent to City Engineer.
d) Follow up on corrective actions and SWPPP report and plans modifications; and
e) Contact City code enforcement and State for compliance and enforcement if needed.

6. City Engineer will evaluate the SOP and program effectiveness and update the SWMP, as needed.

MCM 4: Construction Site Runoff Controls

BMP 1: Develop and adopt an erosion and sediment control ordinance

The City adopted an erosion and sediment control ordinance that has formed the basis of the City's construction site runoff control program. The ordinance addresses construction site waste management as well as the other components listed in the AZPDES municipal permit language.

Permit Requirement Citation: Part V, Section B.4.b.

Activity: Establish an enforceable City ordinance to require erosion and sediment runoff controls at construction sites that disturb one acre or more. Include construction site waste management requirements in the ordinance.

Objective: Reduce polluted stormwater runoff from construction sites that disturb one acre or more as described in General Permit Part V, Section B.4.

Interim Steps and Schedule:

Draft ordinance language	January 2004 – May 2005
Have the group of stakeholders review the draft ordinance language	June 2004 – May 2006
Adopt the final ordinance	June 2006
Implement ordinance requirements	October 2006
Implement ordinance at private development	On-going

Measurable Goals: Adoption of a construction site management control program including necessary ordinance, with inspection and enforcement strategies such as fines not to exceed $1000 or by maximum imprisonment for ten days or both.

MCM 4: Construction Site Runoff Controls

BMP 2: Develop policies and procedures for plan review

After adoption of construction ordinance, City staff started to review plans for sites which result in a land disturbance or one acre or more complying with the ordinance. The City developed SOP and procedures that addressed plan reviews and trained plan review staff.

Permit Requirement Citation: Part V, Section B.4.c.

Activity: Develop and implement policies and procedures for stormwater runoff control plan review and integrate them into existing plan review process.

Objective: Ensure that construction site runoff is addressed before the City issues a construction permit.

Interim Steps and Schedule:

Develop policies and procedures for plan review	September 2005 – December 2005
Train staff	December 2005 – February 2006; as needed for new staff
Begin plan reviews	October 2006; ongoing throughout the permit period
Developed new SWPPP Plan Check Review List	January 2013
Proof of SWPPP inspections	City implements since January 2015

Measurable Goals: SWPPP plans and reports to be reviewed by staff to achieve the goal of reducing construction site runoff into the City MS4. City has SOPs for CIP and private projects with inspection records for private and CIP construction projects for 2014-2015.

The City adopted City Standard Construction Specifications and the Erosion Control Drainage Design Manual for Maricopa County, Arizona, as amended as technical guidance materials that define the design requirements for stormwater runoff control measures as well as construction site pollution prevention. The materials have been made available to the development community.

Permit Requirement Citation: Part V, Section B.4.c.

Activity: Update the technical guidance materials for designing and maintaining stormwater runoff control plans in coordination with the implementation of the City construction site runoff program.

Objective: Reduce the potential for stormwater pollutant discharge from construction sites.

Interim Steps and Schedule:

Research other technical guidance materials	January – March 2005
Develop materials specific to Yuma	April 2005 – July 2005
Adopt the technical guidance materials and distribute to them development community	October 2006

Measurable Goals: Assist architects, engineers and designers in designing and selecting effective BMPs for construction SWPPP plans.

The City developed SOP, written policies and procedures for inspecting construction sites and enforcing stormwater runoff controls. This includes implementing inspection checklists or reports, and enforcement tools. City inspectors get regular training for good performance of BMP site inspections.

Permit Requirement Citation: Part V, Section B.4.d.

Activity: Prepare standard procedures for inspecting sites and enforcing stormwater runoff controls; train inspectors for these procedures; conduct inspections.

Objective: Effectively inspect construction sites for compliance with stormwater runoff controls.

Interim Steps and Schedule:

Develop policies and procedures	July 2006– September 2006
Train inspector	January 2006 – February 2006
Ongoing inspection and enforcement program	October 2006; ongoing throughout the permit period
Update inspection and enforcement program by adding Standard Operating Procedures (SOP)	Update by September 2013
Review SOP for effectiveness and modify as necessary	June 2015

Measurable Goals: Evaluate as part of the overall program review prior to permit renewal, recommending and adopting changes as appropriate. To help achieving the implementation of construction site runoff control ordinance an SOP was added to improve inspection and enforcement of construction sites.

The City developed a comprehensive complaint-receipt program that includes all aspects of the City's SWMP. The complaint phone number, (928) 373-4520, is advertised in public education materials noted in MCM 1.

Permit Requirement Citation: Part V, Section B.4.e.iv.

Activity: Respond to public inquiries and complaints concerning stormwater runoff controls on construction sites that disturb one acre or more.

Objective: Effectively enforce the stormwater runoff control ordinance.

Interim Steps and Schedule:

Develop written procedures for handling complaints	December 2005 – July 2006
Implement a program to receive and follow-up on complaints	October 2006; ongoing throughout the permit period
Opportunistic Inspections by Public Works crews encouraged	June 2014

Measurable Goals: Creating a complaint record and implementation system for construction site is an essential component in the implementation of construction site runoff control. Complaints from the public and through city crew can help reduce pollutants from construction site runoff.

BMP 6: Develop educational materials for the development community

To better inform the development community about the stormwater development requirements, the City developed training materials that detailed the stormwater requirements. An educated development community about stormwater pollution will be more likely to comply with the ordinance.

Permit Requirement Citation: Part V, Section B.1.a.

Activity: Prepare educational materials for the Yuma development community regarding the construction site runoff control ordinance and technical guidance materials; distribute these materials to developers and contractors. Inform the general public of construction site runoff management program to engage them in reporting concerns.

Objective: Inform developers and construction contractors about construction site runoff controls and City ordinances as well as engage the general public in reporting potential problems or concerns.

Interim Steps and Schedule:

Develop stormwater educational materials.	June 2005 – November 2005
Distribute them to the development community and the public.	December 2008, ongoing throughout the permit period

Measurable Goals: To educate development community to become a helpful factor in achieving the goals or reducing construction site runoff and the ultimate goals of the SWMP.

MCM 5: Post-Construction Site Runoff Control

The Yuma City Code contains ordinances about retaining stormwater for new construction. These ordinances establish methods and standards for retention basins for new construction within the City, and adopted to control post-construction flooding rather than the quality of stormwater runoff. This MCM will address the effects of post-construction and re-development into the MS4 from a water quality perspective.

Responsible Department: City Engineering Division

Responsible Position: Joshua M. Scott, P.E., City Engineer, Director of Engineering Department

This SOP describes the procedures that will be used to support Chapter 195 of Yuma City Code "Post-Construction Stormwater Runoff." and to ensure that post-construction and developed sites that fall under this Section are:

1. Having SWPPP designed per the Plan Review Checklist; and
2. Getting inspections to ensure that the measures indicated in the SWPPP are installed adequately and intending their design goals.

This SOP will be revised with the SWMP as necessary. For post-construction and developed sites located within ¼ mile of the impaired segment of Colorado River, refer to AMC No. 1 on this SWMP. The City will start implanting the following steps:

Below are the required procedures for inspections and enforcement of BMP control measures at post-construction and developed sites that fall under the umbrella of Section 195 of Yuma City Code.

1. Prior to inspection, the City inspector will:
   a) Contact owner/contractor superintendent or project manager
   b) Bring camera, safety vest and project file
   c) Bring the SWPPP post-construction inspection Checklist.
   d) Review previous inspection reports to determine reoccurring problems
2. At the post-construction site the City inspector will, at minimum, inspect the following:
   a) Record starting time, ambient temperature, rainfall within the last 72 hours, wind and clearness or cloudiness of sky.
   b) Ensure that the site does not have evidence of releasing any discharge from its boundaries,
   c) Take photographs of effective BMPs and BMPs that need evaluation or replacement. The photo must indicate date and time of inspection and comment on the BMP.
3. Before leaving the site, the City inspector will:
   a) Discuss with the owner the effectiveness of current controls and if modifications are needed in the SWPPP,
   b) Identify a time frame for making modifications on site and SWPPP report and plans,
   c) Discuss with the owner any compliance or enforcement issues needed,
   d) Ensure that all BMPs are installed correctly and performing their intended goals,
4. After conducting the inspection, the City inspector will:
   a) Fill the SWPPP checklist and fax or email to the owner within 3 working days,
   b) Follow up on corrective actions and SWPPP report and plans modifications,
   c) Contact City code enforcement for compliance and enforcement if needed, and
   d) Evaluate the SOP and program effectiveness and update the SWMP.

The City developed a post-construction stormwater runoff program that includes education several components. A cornerstone of this program is development and adoption of ordinance to form the basis for the post-construction stormwater runoff program.

Permit Requirement Citation: Part V, Section B.5.c.

Activity: Create and adopt an ordinance that addresses post-construction runoff from new development and redevelopment projects, identifying approved BMPs for structural and non-structural controls that impact new and redevelopment projects as defined in General Permit Part V, Section B.5.

Objective: Minimize impacts of new or redevelopment projects on stormwater quality through effective controls for stormwater discharge management.

Interim Steps and Schedule:

Identify the program's goals, including BMPs appropriate for the City, BMP design goals, and BMP maintenance policies; Develop draft ordinance language	August 2006 – June 2007
Allow the public to have input on the ordinance and revise, if necessary	July – August 2007
Adopt the ordinance	September 2007. adopted in September 2007 and went into effect on 2/18/2008.
Continue to review ordinance to match the needs of the community	On-going

Measurable Goals: Adoption of a post-construction sites and re-development sites management control program including necessary ordinance, with inspection and enforcement strategies. In September 2007, the City adopted the final post-construction stormwater runoff ordinance to address new and redevelopment projects as defined in the AZPDES Small MS4 General Permit Part V, Section B.5. The adoption of this ordinance will achieve meeting the requirements of SWMP by reducing runoff from post-construction and re-development sites.

The City adopted City Standard Construction Specifications and the Erosion Control Drainage Design Manual for Maricopa County, Arizona, as amended as technical guidance materials that define the design requirements for post-stormwater runoff control measure. The materials are available to the development community and at City website.

Permit Requirement Citation: Part V, Section B.5.e.iii.

Activity: Develop and adopt technical guidance materials that address the design, installation, and maintenance of structural post-construction stormwater runoff BMPs.

Objective: Reduce the pollutants in post-construction site runoff to the maximum extent practicable.

Interim Steps and Schedule:

Draft the technical guidance materials	May 2007 – August 2007
Adopt the technical guidance materials	October 2007

Measurable Goals: Assist architects, engineers and designers in designing and selecting effective BMPs for post-construction SWPPP plans.

MCM 5: Post-Construction Site Runoff Control

BMP 3: Develop policies and procedures for plan review

The City established SOP and written policies and procedures for plan review of new development projects for post-construction BMPs, these policies and procedures are utilized in the plan review process. The SOP was developed in June 2013; an updated SWPPP plan check review was also developed to ensure achieving the goals of this MCM.

Permit Requirement Citation: Part V, Section B.5.e.iii.

Activity: Develop SOP and policies and procedures for post-construction stormwater runoff plan review for all new development and redevelopment projects that affect one acre or more as defined in the General Permit Part V, Section B.5.

Objective: Effectively implement a program to reduce pollutants in post-construction stormwater runoff to the maximum extent practicable for new or redevelopment projects as defined in the General Permit Part V, Section B.5.

Interim Steps and Schedule:

Develop policies and procedures for plan review	June 2007 – October 2007
Train the plan review staff	October 2007
Implement the plan review program	April 2008; ongoing throughout the permit period
Develop SOP and SWPPP plan review checklist	Completed in June 2013 and reviewed in June 2015.

Measurable Goals: Help city plan review team to review post-construction SWPPP to achieve goals of the SWMP.

The City developed SOP and written policies and procedures for inspecting post-construction stormwater systems and enforcing the City's post-construction site runoff control ordinances. This includes creating inspection checklists/reports and enforcement tools. The City is in the process of developing a long-term structural BMP inspection and maintenance program to ensure the longevity of measures. In September 2013, an updated SWPPP inspection checklist and related SOP have been developed to ensure achieving the goals of this MCM. The SOP was reviewed in June 2015.

Permit Requirement Citation: Part V, Section B.5.d.

Activity: Develop an ongoing post-construction BMP inspection program in support of BMP 1 to ensure effective construction and long-term performance of controls.

Objective: Ensure the longevity of the post-construction BMPs and ensure compliance with the ordinance.

Interim Steps and Schedule:

Develop inspection and enforcement program policies and procedures, including as-built inspections and ongoing inspections	June 2007 – September 2007
Train the inspection staff	Last conducted in April 2016
Create an ongoing inspection and maintenance program	April 2008; ongoing throughout the permit period
Update inspection and enforcement program by adding Standard Operating Procedures (SOP)	Update by September 2013
Review effectiveness of SOP and modify if necessary	On-going
Development of long-term structural BMP inspection and maintenance program	June 2016

Measurable Goals: To help reduce pollutants from post-construction and re-developed sites and in particular to areas connected to the MS4, inspection and enforcement will enhance implementation of post-construction runoff and water quality.

To better inform the development community about the new development requirements, the City created training materials that detail the new requirements. If the development community is educated about this issue, it will be more likely to comply with the ordinance.

Permit Requirement Citation: Part V, Section B.5.e.iv.

Activity: Create educational materials that outline the requirements of the post-construction stormwater runoff control program.

Objective: Educate the development community including architects, engineers and the general public on the stormwater runoff control program.

Interim Steps and Schedule:

Develop the educational materials	July 2007 – November 2007
Distribute the materials to the development community	November 2007; ongoing throughout the permit period
Develop informative letter to development community	Sent in June 2013

Measurable Goals: To assist in design and implementation of post-construction SWPPP and in coordination with BMP 1 of this MCM, the City developed education and guidance materials including information about project designs which minimizes water quality impacts on approved structural or non-structural BMPs for new or redevelopment projects as defined in General Permit Part V., Section B.5.

MCM 6: Pollution Prevention/Good Housekeeping

The City of Yuma recognizes that to be successful any stormwater management plan requires diligent good housekeeping and pollution prevention. The Yuma City Code already contains many pollution prevention components, and the City is committed through policy and procedure to good housekeeping for stormwater management. The City also realizes that evaluating and refining good housekeeping and pollution prevention is beneficial, and the City is committed to the BMPs and schedules described below. City operations impacted by this minimum control measure are:

1. Parks and recreation operations
2. Desert Hills Golf Course Maintenance Shop
3. Fleet Maintenance Shop
4. Building Permitting Procedures
5. Street sweeping operations
6. Police Department Evidence Facility at Kyla Avenue
7. City Construction Standards
8. Cleanup of all stormwater catch basins in the Priority Area

Waste from operations and facilities will be collected and disposed properly to an approved landfill unless a hazardous waste is detected. Hazardous waste such as oil, fuel, antifreeze, chemicals, pesticides, paint or other non-stormwater or street-related debris will be handled and disposed of appropriately as per Federal, State and local environmental regulations.

Responsible Departments: Public Works Department

Responsible Position: Joel Olea, Director of Public Works

An important activity in keeping floatables and sediment out of the stormwater system is street sweeping. The City evaluates its street sweeping practices from the standpoint of stormwater runoff and will make changes if necessary.

Permit Requirement Citation: Part V, Section B.6.a.ii.

Activity: Evaluate street sweeping practices and schedule to determine effectiveness in addressing public street runoff impacts on stormwater quality.

Objective: Evaluate the City's street sweeping program to determine if operations should be revised in order to minimize pollutant discharges to the MS4. Develop new schedule or equipment changes if necessary to achieve performance goals established in the evaluation.

Interim Steps and Schedule:

Review the street sweeping program	December 2008 – May 2009
Develop recommended changes for street sweeping program if appropriate	June 2009; continue street sweeping through permit period. Last Review completed in June 2015.

Measurable Goals: Review of City street sweeping program; recommendations on changes or modifications to street sweeping procedures, equipment, schedules and priorities, completed by May 2009. Latest review of street sweeping was completed with staff training in June 2015.

The SWMP contains regular training programs staff training on pollution prevention.

Permit Requirement Citation: Part V, Section B.6.b.ii.

Activity: Train City of Yuma employees regarding general water quality issues as well as on the City's pollution prevention program.

Objectives: Inform City employees of water quality issues related to City operations; reduce pollution from municipal operations and empower employees to carry out their responsibilities day to day with the goal of minimizing impacts on water quality.

Interim Steps and Schedule:

Develop a training program	December 2004 – June 2005
Begin training of staff	June 2005
Complete all staff training based on BMP 3 outcomes	November 2007
Train staff	Last done June 2015

Measurable Goals: Develop and implement employee training program; train employees twice annually. Evaluation of training is required to assess achieving the goals of the SWMP.

The City proposes a staged approach for this BMP. The City has identified all municipal maintenance and operations activities and municipal facilities and has then evaluated each for its potential to contribute to pollutant loading. To reduce the potential for pollutant loading, pollution prevention plans and activities will be specified where needed.

Permit Requirement Citation: Part V, Section B.6.a.

Activity: Evaluate City operations and maintenance activities and as well as City-owned facilities to determine if stormwater pollutants are being reduced to the maximum extent practicable.

Objective: Reduce the potential for pollutant discharge from municipal operations and maintenance activities as well as City-owned facilities.

Interim Steps and Schedule:

Identify City operations and maintenance activities and facilities and prioritize for evaluation	January 2008 – August 2008
City Street Operations and Cleaning of 56 catch basins in the Pacific Ave at Priority Area	By June 30, 2015
BMPs for Priority Area and Cleaning of the second catch basins segment at the Priority Area	By June 30, 2016

Measurable Goals: Evaluate a minimum of eight City operations and maintenance activities and facilities over the permit period. Modify procedures for operations and maintenance activities as appropriate. Develop pollution prevention plans for City-owned facilities evaluated, as appropriate, providing employee training on pollution prevention plans. Catch basins at Colorado River are scheduled to be cleaned over three years program that will end in 2017. New construction standards for BMPs at the P.A will be introduced.

Additional Control Measure (ACM) No. 1: Specific BMPs for Reducing the Discharge of 303 (d)-Listed Pollutants

In its 2010 303 (d) Impaired Waters list, ADEQ designated the Colorado River segment from Main Canal (All American Canal) to Mexico border (a total of 32.2 mile segment) as impaired for low dissolved oxygen and selenium. The impairment has been categorized as "Impaired surface waters where a Total Maximum Daily Load (TMDL) analysis is required". The TMDL was scheduled, by ADEQ, to be initiated during year (2010). No TMDL is established up to June 30, 2012.

In January 2013 ADEQ conducted an audit visit to the City. A letter dated 4/5/2013 summarizing the requirements of the audit visit. Part of the requirements by ADEQ for the City to perform monitoring of 303(d) listed receiving water; provide sampling data collected from the Colorado River and to submit this data to ADEQ.

To meet the requirements of Part V.A.4 of General Permit Number AZG2002-002, and ADEQ letter dated 4/5/2013, the SWMP has been modified, by adding this measure with its BMPs and measurable goals, to address reducing the discharge of 303(d)-listed pollutants from the City's MS4 to the waters of the U.S.

The City of Yuma recognizes the benefits of prevention and reduction of the discharge of 303 (d)-listed pollutants on scarce water resources, environment and health.

The City will implement the following BMPs to achieve this ACM:

1. Delineation of drainage areas and preparation of inventory of all stormwater collection system elements that contribute stormwater runoff to impaired waters. from City's MS4.
2. Incorporate BMPs that will capture discharges that may contribute to lower dissolved oxygen contents and/or higher concentrations of selenium from construction sites with potentials of discharge into impaired waters.
3. Incorporate post-construction design BMPs in the newly-constructed stormwater collection system to capture discharges that may contribute to lower dissolved oxygen contents and/or higher concentrations of selenium.
4. Educate development community about reduction of discharges from construction and developed sites to impaired waters.
5. Develop and implement surface water quality Monitoring Program that will perform visual monitoring, to the maximum extent practicable, of discharges of any storm that drops 0.1" of rain with potential of reaching the River. Monitoring is performed for selenium and any pollutants that will contribute to less dissolved oxygen.

Responsible Department: City Engineering Division

Responsible Position: Joshua M. Scott, P.E., City Engineer, Director of Engineering Department

Standard Operating Procedure (SOP)

The intent of this SOP is to describe the procedures that can be used to reduce the contribution of 303 (d) listed-pollutants from the City Municipal Separate Storm Sewer System (MS4) to Colorado River (River). This SOP offers the below steps to achieve this goal:

1. Require owners with construction sites that disturb one or more acres and located within ¼ mile of the River to develop and submit SWPPP and Monitoring Plan to the City. Owners must submit the same to ADEQ and obtain approval prior to start of construction.
2. Require owners to inspect construction sites that disturb one or more acres within ¼ mile of the River per the AZG 2013-001.
3. Perform selenium and sediment, temperature monitoring and any possible element or compound that may reduce dissolved oxygen.
4. Require owners with post-construction discharge potential to install BMPs that will reduce selenium and pollutants that will lower dissolved oxygen.
5. Add areas within ¼ mile of the River to the stormwater map.
6. Use visual inspections of upstream points as a second step and document all results for future references.
7. Create a new Monitoring Program, containing its own SOP that utilizes visual monitoring to the maximum extent practicable. Testing will be required for all 303 (d) listed pollutants in the River after ADEQ establishing the TMDLs.
8. Conduct inspections during dry weather periods using the Dry Weather Outfall Inspection Form.
9. Add new BMPs to reduce the introduction of the 303 (d) –listed pollutants to the Erosion Control Drainage Design Manual for Maricopa County, Arizona, as amended and to City Standards, and
10. Evaluate the program effectiveness and update the SWMP.

BMP 1: Delineation of Drainage Areas & Preparation of Inventory of Stormwater Collection System Elements with Discharge Potentials to Impaired Waters

An important BMP is delineating areas that may contribute runoff to impaired waters to identify the elements of the MS4 that may contribute to further deterioration of impaired waters. The City is delineating drainage areas with stormwater collection system connecting to the Colorado River outfalls. An inventory will be prepared of such affected collection system. The stormwater map will be updated with the same information.

Permit Requirement Citation: Part V, Section A.4

Activities:

1. Delineate area (called hereafter Priority Area) with potential of discharging into the River through City MS4,
2. Identify, in these areas, elements of the stormwater collection system;
3. Create new inventory for above elements; and
4. Update the stormwater map with the same taking into consideration newly-constructed CIP projects.

Objective: Delineate drainage areas that contribute to stormwater runoff, identify stormwater collection system at these areas, create inventory and update all elements of the stormwater collection system with potentials of discharging into Colorado River to prevent and reduce the discharge of 303 (d)-listed pollutants and other pollutants from the MS4 to the affected segment of Colorado River.

Interim Steps and Schedule:

Delineate drainage areas that contribute runoff to the Colorado River	90% complete by 6/30/2014
Identify elements of MS4 emptying into the Colorado River	100% complete by 6/30/2014
Create new inventory for MS4 emptying into the Colorado River	June 2015
Update stormwater map including new CIP projects in the same area	Completed on 06/30/2014
Update stormwater map to include priority areas	75% completed on 06/30/2014. 100% is anticipated by 06/2015
Create an inventory for P.A	Created by June 2015. In-progress

Measurable Goals: Prepare an updated written inventory of all stormwater collection system that contributes stormwater runoff to the Priority Area of the Colorado River by the end of December 2015. P.A is added to the stormwater map with more details expected in the stormwater atlas of 2015. Inventory will be reflected in stormwater map of 2015 with the latest constructed CIP, private projects and priority areas in these areas.

BMP 2: Reduce and Prevent Discharges of 303(d)-listed Pollutants from Construction Sites into Impaired Waters:

This BMP requires construction sites under the umbrella of the stormwater regulations to design and install BMPs that will prevent and reduce, to the maximum extent practicable, the introduction of 303(d)-listed pollutants from construction sites to the Colorado River or the MS4 with connection to the River.

Permit Requirement Citation: Part V, Section A.4

Activities:

1. Delineate Priority Area (P.A.)
2. Projects within the P.A. that disturb one or more acre must submit SWPPP for City approval,
3. Provide BMP plan for any construction, regardless of the area, that is located within 50 or less from the City stormwater collection system and in particular catch basins in the P.A.
4. Incorporate at least 7 calendar days inspection requirement and within 24 hours of 0.1 inch rain event
5. Apply requirements for both private and public projects
6. Monitoring Program to include recommended BMPs for construction sites

Objective: Delineate drainage areas that contribute to construction stormwater runoff, incorporate plan review requirements in the pre-development meetings, review SWPPP by City and get ADEQ approval for the same, include regular inspections requirements per AZPDES requirements. Requirements apply for both private and public projects.

Interim Steps and Schedule:

Delineate areas within ¼ mile from the Colorado River	100% completed by 6/30/2014
Plan review requirements (SWPPP)	Went into effect since July 2012
Regular Inspection Program	December 2012
Require monitoring of any discharge results from 0.1” storm.	Visual monitoring to City stormwater outfalls at River started July 2014.
Requirements to apply for both public and private projects	In effect since July 2012. On-going throughout permit period.
Include BMPs for construction sites in the Monitoring Program	Complete recommended BMP by 2016

Measurable Goals: Prepare and implement BMPs to reduce the introduction of selenium and elements that cause lower dissolved oxygen in the Colorado River as a result of Construction site activities. BMPs will utilize in-place City standard and new recommended BMPs will selected per Monitoring Program.

BMP 3: Reduce and Prevent Discharges of 303(d)-listed Pollutants from Post-Construction Sites into Impaired Waters:

This BMP requires newly-developed sites under the umbrella of the stormwater regulations to design and install BMPs to prevent and reduce, to the maximum extent practicable, the introduction of 303(d)-listed pollutants from post-construction and re-development to the River or the MS4 with connection to the River.

Permit Requirement Citation: Part V, Section A.4

Activities:

1. Delineate Priority Area (P.A.)
2. Incorporate plan review requirements in the building permit process for sites that disturb one or more acres,
3. Provide BMP plan for any post-construction discharge, regardless of the area, that is located within 50 or less from the City stormwater collection system and in particular catch basins in the P.A.
4. Specify permanent BMPs in the Monitoring Program for new facilities; and
5. Make Requirement consistent with AZPDES current post construction regulations

Objective: Delineate Priority Area (P.A.) that contributes to stormwater runoff from newly-developed sites and sites with potential of discharging into the River. Identify stormwater collection system at these areas, create inventory and update all elements of the stormwater collection system with potentials of discharging into the River to prevent and reduce the discharge of 303 (d)-listed pollutants and other pollutants from the MS4 to the River.

Interim Steps and Schedule:

Delineate drainage areas that contribute runoff to the Colorado River	June 2014
Identify elements of MS4 connected to the Colorado River	June 2014
Create new inventory for MS4 connected to the Colorado River	December 2014
Update stormwater map including new CIP projects in the same area	December 2014
Create new BMPs in the Monitoring Program	Complete recommended BMPs by 2016

Measurable Goals: Create a post-construction program through plan review and implementation of other City post-stormwater regulations to reduce and prevent pollutants from stormwater runoff to the River. BMPs will depend on type of monitoring adopted in the Monitoring Program.

BMP 4: Educate Businesses, Development Community, Business Owners and Residents about Reduction of Stormwater Pollution to Impaired Waters:

This BMP increases the awareness of business owners, development community and residents within the Riverfront to reduce, to the maximum extent practicable, the introduction of stormwater pollutants and 303(d)-listed pollutants from locations with drainage potentials to the River.

Permit Requirement Citation: Part V, Section A.4

Objective: Increase the awareness among residents and business owners about the reduction and prevention of stormwater pollutants at the area with potentials of draining into the River.

Interim Steps and Schedule:

Delineate drainage areas that contribute runoff to the Colorado River through stormwater collection system	July 2014
Identify elements of MS4 emptying into the Colorado River	June 2015
Send educational letter to residents and businesses	Annually
Educational letters to development community and business owners about stormwater pollution effect on the impaired waters	Sent June 2013 and expected to continue once annually
Training session for development community about stormwater pollution in the P.A	Expected in first half of 2016

Measurable Goals:

Educate residents, development community and business owners about the reduction and prevention of stormwater pollution into impaired waters. Legal issues will also be addressed in the education.

Educate residents, development community and business owners about the reduction and prevention of stormwater pollution into impaired waters. Legal issues will also be addressed in the education.

In its 2006/2008 303 (d) Impaired Waters list, ADEQ designated the Colorado River (River) segment from the Main Canal to Mexico border (a 32.2 mile segment) as impaired due to low dissolved oxygen and high selenium levels. The impairment has been categorized as "Impaired surface waters where a Total Maximum Daily Load (TMDL) analysis is required". The TMDL was scheduled, by ADEQ, to be initiated during 2010. No TMDL has been established as of the date of this plan.

In January, 2013 ADEQ conducted an audit visit to review the City's SWMP. (A letter dated 4/5/2013 has summarized the requirements of the audit visit). During the audit visit ADEQ required that the City to establish a monitoring program and perform testing for 303(d) listed pollutants that discharge into the Colorado River (River) impaired segment; provide sampling data collected from the River and to submit this data to ADEQ.

To meet the requirements of Part V.A.4 of the Permit the City is modifying its SWMP by adding Additional Control Measure No. 1 (ACM No. 1) to address the issue of the impaired segment of the River as designated by ADEQ. Also, to address ADEQ letter dated 4/8/2013, the City is adding this Monitoring Program (Program) to prevent the exceedance of the 303(d)-listed pollutants to the River from the City's MS4.

As defined in Section V(F.1) of the Permit if a municipality discharges to a water for which a TMDL has been established then the municipality must monitor to determine if the stormwater controls are adequate to maintain compliance with the Permit's waste load allocation or load allocation; however; if a municipality discharges to a 303 (d)-listed water that contain or may contain pollutants for which the water body is listed (in this case low dissolved oxygen and selenium) the municipality must monitor to determine if the stormwater controls are effective to control discharges of pollutants of concern. Also per 40 CFR 122.34 EPA strongly recommends that until the evaluation of the storm water program in 40 CFR 122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s (such as the City of Yuma) without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality. Based on the above reasons and until ADEQ establishes the required TMDL, the City will design this Program to determine if the stormwater controls specified in this Program and in the ACM No. 1 of the SWMP are effective to control discharges of pollutants from the City's MS4 that might contribute to exceedance of selenium or depletion of dissolved oxygen.

It is worth-mentioning that the City has chosen to include the Pacific Ave storm drain in this Program despite being located outside the impaired segment of the River as the City recognizes its role as a stewardship and leadership to protect the scarce water resources of the community, State and the country.

Permit Requirement Citation: Part V, Section A.4

Activities:

1. Create water quality monitoring program to reduce the discharge of selenium and reduce decrease dissolved oxygen demand in the affected segment of Colorado River.

Objective: The purpose of this Program is to develop a water quality monitoring plan to prevent and reduce the discharge of stormwater pollutants, and in particular, the 303(d) listed pollutants (dissolved oxygen and selenium) from the City's MS4. The City has multiple stormwater outfalls. A limited area has a physical connection to the River. The City has 5 stormwater outfalls at the River: Madison Avenue, 9th Avenue, 17th Avenue, 19th Avenue and stormwater drain of the East Mesa Drainage that comes from Pacific Avenue. The City recognizes its stewardship as a municipality to protect surface water resources;

however guidance from higher jurisdictions, such as ADEQ and EPA, is essential to satisfy such a role.

Per 40 CFR 122.34 EPA strongly recommends that until the evaluation of the storm water program in 40 CFR 122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality.

Also per 40 CFR 122.34, ADEQ (the permitting authority) may include such more stringent limitations based on a TMDL or equivalent analysis that determines such limitations are needed to protect water quality.

Section V (F.1) of the Permit requires that a Phase II municipality must monitor its stormwater discharges, from its MS4, to determine if the stormwater controls are effective to control discharges of pollutants of concern.

Therefore and per 40 CFR 122.34 and Section V(F.1) of the Permit, the City has chosen to conduct visual monitoring based on the "Maximum Extent Practicable" stormwater standard as described in Section 4 of this document, on the stormwater outfalls at the River until one of the below three conditions apply:

1. Establishment of TMDL for DO, selenium or any newly-added 303 (d) listed pollutants by ADEQ, or
2. ADEQ determines limitations of DO, selenium or any newly-added 303 (d)-listed pollutants by an equivalent analysis; or
3. The City and ADEQ agree on additional monitoring requirements.

After one of the above three conditions apply and under ADEQ guidance, the City will amend this document to utilize sampling and testing per CFR 122.34.

Interim Steps and Schedule:

Develop water quality monitoring program	Part of the 2013-2014 Annual Report to ADEQ
Start Monitoring at River designated outfalls	July 2014 and on-going
Document and report to ADEQ	By 09/30 annually
Update monitoring program as needed	Update BMPs by evaluation or guidance by ADEQ
Update stormwater map to include detailed priority area information on each panel of the stormwater atlas	Atlas currently includes P.A; expected to include details of P.A. by 06/2016

Measurable Goals: Reduce the discharge of selenium and pollutants that contribute to low dissolved oxygen by conducting regular monitoring at river outfalls.

ANNEXED LANDS TO THE MS4 WITHIN THE URBANIZED AREA

Per Permit Section V.E.5 (a), the City must implement the SWMP in all new areas, within the urbanized area per the 2000 census, added to the City portion for the MS4 not later than one year from addition of the new areas. MCM No. 1 through MCM No. 6 including ACM No. is being implemented in annexed areas each year. Since all of these areas are county islands inside the City no new MCM or change in the MCMs is needed. Also per Section V.G.1 (e) of the Permit no BMP is needed as of today to be implemented to address issues in the newly annexed lands. This statement is being provided each annual report. The similarity of land use and the common feature in the City and Yuma County that requires the stormwater on-site retention of all stormwater generated on site to infiltrate and percolate into the groundwater combine to make the quality of stormwater in the City and county islands quite similar. This will reflect no or minimum impact on the MS4 from water quality perspective.

Reporting Period 2003-2004

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Fruit Growers Supply	8.62	Commercial/light industrial	Stormwater on-site retention. No BMP required.
8th Street ESCH Properties	1.96		
YRMC 24th Street apartments east of Avenue C	18.86	Residential	Stormwater is retained on site through onsite and local retention basis. No BMP required. Development can be considered part of Ave C drainage system with no potential of discharging into Ave C.
Gila Ridge Road	6.4	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Avenue 3 ½ E and 36th Street	20.1	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Schoenherr Trust	30.0	Commercial/light indusrial	Stormwater on-site retention. No BMP required.
Produce & Marine Industrial Park	314.3	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Hall Brothers	17.42	Residential	Stormwater on-site retention. No BMP required.
Avenue 9E and I-8	47.1	Commercial/indust	Stormwater on-site

		rial	retention. No BMP required.
First Assembly of God Church	2.7	Commercial	Stormwater on-site retention. No BMP required.
American Cooling	9.1	Commercial	Stormwater on-site retention. No BMP required.

Reporting Period 2004-2005

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Trail Estates Unit # 4	20.0	Residential subdivision	Stormwater on-site retention. No BMP required.
Savant Estates	40.1	Residential subdivision	Stormwater on-site retention. No BMP required.
Barkley Property	28.3	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Trail Estates Units 5 & 6	93.1	Residential subdivision	Stormwater on – site retention. No. BMP required.
Pacific Avenue	10.1	Commercial	Stormwater on site retention. No BMP required.
40th Street and Avenue C	206.8	Residential subdivision	Stormwater is retained on site through onsite and local retention basis. No BMP required. Development can be considered part of Ave C drainage system with no potential of discharging into Ave C.

Reporting Period 2005-2006

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Yuma Storage	2.9	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Gila Ridge Road	107.3	Commercial/light industrial	Stormwater on-site retention. No BMP required.
1421 S. Avenue B	5.5	Commercial/light	Stormwater on-site

		industrial	retention. No BMP required.
Gila Ridge Road & Ave 4E	108.5	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Dr. Flores	1.7	Commercial	Stormwater on-site retention. No BMP required.
Castle Dome Avenue	232.8	Commercial	Stormwater on-site retention. No BMP required.
Avenue C and 12th Street	3.9	Residential	Stormwater on-site retention. No BMP required.
Marine Corps Air Station Boundary No. 2	75.5	Military	Stormwater on-site retention. No BMP required.
Marine Corps Air Station Boundary No. 2	948.1	Military	Stormwater on-site retention. No BMP required.
3rd Street subdivision	10.2	Residential subdivision	Stormwater on-site retention. No BMP required.
Country Lane (36th Street and 4th Avenue Extension)	36.9	Commercial	Stormwater on-site retention. No BMP required.
16th Street and Pacific Avenue (Kjar)	9.0	Commercial	Stormwater on-site retention. No BMP required.
Strenitzke Property at 32nd Street between Avenue 3 ½ E and Avenue 5E	12.3	Light industrial	Stormwater on-site retention. No BMP required.

Reporting Period 2006-2007

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
East of Avenue 8E, west of Avenue 8 ½ E, north of 44th Street and south of 42nd Street	104.0	Light industrial/commercial	Stormwater on-site retention. No BMP required.

Reporting Period 2007-2008

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
County island bounded by Arizona Avenue on west, Pacific Avenue on east between 34th Street and 36th Street	11.0	Light industrial	Stormwater on-site retention. No BMP required.
County island bounded by	48.6	Commercial	Area drains to

10th Street on north, 12th Street on south, 1st Avenue on west and railroad track on the east			Pacific Avenue drainage area. Pacific Avenue discharges into the River and is being addressed into the Additional Control Measure No. 1
Area bounded by railroad track on north, 28th Street on south between Avenue 4 ½ E and Avenue 4 ¾ E	26.2	Light industrial	Stormwater on-site retention. No BMP required.
Area at the southeast intersection of 48th Street and Avenue 6E bounded on east by Avenue 6 ¼ E and at the south by 52nd Street	80.1	Light industrial	Stormwater on-site retention. No BMP required.

Reporting Period 2008-2009

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Northeast corner of the intersection of 16th Street & Arizona Avenue.	17.00	Commercial/light industrial	Stormwater on-site retention. No BMP required.
East of Arizona Avenue and south of 20th Street	34.28	Commercial/light industrial	Stormwater on-site retention. No BMP required.
East and west of the intersection of 8th Street and Avenue B	28.02	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Southwest corner of the intersection of 36th Street and Avenue C	19.34	Livingstone Ranch Residential subdivision	Stormwater is retained on site through onsite and local retention basis. No BMP required. Development can be considered part of Ave C drainage system with no potential of discharging into Ave C.
Northwest corner of the intersection of 48th Street and Avenue 6E	37.96	Residential subdivisions	Stormwater is retained on site through onsite and local retention basis. No BMP required. Development is located in the Mesa area where good hydrology exists.
North of 8th Street between Avenue C and Avenue D	61.0	Residential/Commercial	Stormwater on-site retention. No BMP required.
West of Avenue B and south of 1st Street	0.34	Residential	Stormwater on-site retention. No BMP

			required.

Reporting Period 2009-2010

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Area bounded by Pacific Ave on east, 22nd Street on south, railroad track on north and Arizona Ave on west	3,812.5	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area bounded by Ave 5E on west, Ave 6E on east, railroad track on south and 24th Street on north	282.3	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area bounded by Maple Ave on east, one block to the west, 16th Street on north	20.0	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area bounded by Arizona Ave on west, Pacific Ave on east, 18th Street on north	162.2	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area between Ave 3E and Ave 4E at 24th Street	70.9	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area between Pacific Ave and Maple Avenue north of 18th Street	63.4	Commercial/light industrial	Stormwater on-site retention. No BMP required.

Reporting Period 2010-2011

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Area bounded by 32nd Street on north at Avenue 3 ½ E	43.6	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area bounded by 40th Street on north at Avenue 4 ½ E	5.0	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Area bounded by Avenue B on west and 30th Street on south	6.40	Residential	Stormwater on-site retention. No BMP required.
Area located at the southeast corner of the intersection of 16th Street and Pacific Avenue	2.0	Commercial	Stormwater on-site retention. No BMP required.
Area bounded by 32nd Street on north and Avenue 8 ½ E on west	16.0	Commercial	Stormwater on-site retention. No BMP required.
Area bounded by Union Pacific Rail Road right of way on north at Pacific	6.7	Commercial	Stormwater on-site retention. No BMP required.

Avenue			

Reporting Period 2011-2012

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Area bounded by railroad track on north and by Arizona Avenue on east and 20th Street on west	27.0	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Southwest corner of the intersection of Avenue 4E and 32nd Street	27.7	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Triangular area at the north side of the intersection of Pacific Avenue and 22nd Street	6.7	Commercial/light industrial	Stormwater on-site retention. No BMP required.

Reporting Period 2012-2013

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Area bounded by Ave B on east, 31st Drive on west and 27th Street on north	2.1	Commercial/light industrial	Stormwater on-site retention. No BMP required.
Southwest corner of the intersection of Avenue C and 24th Street bounded by Ave C ½ on west and 28th Street on south	155.3	Commercial/light industrial	Stormwater on-site retention. No BMP required.

Reporting Period 2013-2014

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Area bounded by 45th Ave and 46th Drive on east, Ave D on west, 8th Street and 12th Street on south, and 5th Street on north	142.0	Commercial/light industrial	Stormwater on-site retention. No BMP required.

Reporting Period 2014-2015

Description of Land Annexed	Total Area in Acres	Land Use	Need for Implementation of New BMP
Area bounded by Ave 10E at east, Salida Del Sol Ave on west, 40th Street on south, and 36th Street on north	64.0	Commercial/light industrial	Stormwater on-site retention. No BMP required.