

SCANNED

JUN 19 2019

MAILROOM

Recertification Notice of Intent (NOI)

Regulated Small Municipal Separate Storm Sewer Systems (MS4's) General Permit ARR040000

You must complete, certify, and sign this Recertification Notice of Intent (NOI) form and return it along with the updated Stormwater Management Program (SWMP) to the Department in order to continue permit coverage under the General Permit ARR040000. You must submit this form no later than July 1, 2019. Please keep a copy of this form for your records once completed and signed.

Permittee Name	Permit Tracking Number	AFIN
Shannon Hills	ARR040022	88-00844

If any changes or additions need to be made to the information shown below, please update the new information in the corrections section below and/or attach documentation.

	Current Information in ADEQ's database	Corrections/Additions, If Needed
Small MS4 Physical Address	10401 High Road East	
County	Saline	
Urbanized/Core Areas	Little Rock Urbanized Area	
Receiving Stream	Otter Creek Basin	
Ultimate Receiving Stream	Fourche Creek	
Contact Person & Title	David Passmore, Director of Public Works	Jeffrey Reed / Deputy Director
Telephone Number	(501) 455-3195	
Cognizant Official & Title	Mike Kemp, Mayor	
Responsible Official & Title	Mike Kemp, Mayor	

Are the mailing and invoice addresses the same?

Yes or No*

*If "No," please provide invoice address:

Additional Comments: _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based 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."

I certify that I have read and will comply with all the requirements of the Regulated Small Municipal Separate Storm Sewer Systems (MS4's) General Permit ARR040000.

Responsible Official Name: Mike Kemp

Responsible Official Title: Mayor

Responsible Official Signature: [Signature]

Date: 5-30-19

Return the NOI form to the address below or send it electronically to: water.permit.application@adeq.state.ar.us or via ePortal at the following web address: <https://eportal.adeq.state.ar.us/>

NPDES Permits Section, Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

STORM WATER MANAGEMENT PROGRAM

For

City of Shannon Hills

City of Shannon Hills, AR
July 2020

By:



117 S. Market Street,
Benton, Arkansas 72015
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CERTIFICATION

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.

THE CITY OF SHANNON HILLS STORMWATER MANAGEMENT PROGRAM

July 21, 2020

1 REQUIREMENTS

- 1.1 In accordance with NPDES Permit No. ARR040000, the City of Shannon Hills has developed a storm water management program (SWMP) designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy water quality requirements and the Clean Water Act. The City of Shannon Hills shall also implement and enforce the SWMP to meet the aforementioned criteria. The SWMP includes management practices; control techniques and system, design, and engineering methods; and shall be modified to include provisions as ADEQ determines appropriate after its review of the program for the control of such pollutants. The SWMP contains the following information for each of the six minimum control measures described in Section 2:
 - 1.1.1 The best management practices (BMP's) that the City of Shannon Hills will or already does implement for each of the storm water minimum control measures;
 - 1.1.2 The measurable goals for each of the BMP's, the ones the City of Shannon Hills believes to have the authority to implement, including, as appropriate, the months and years in which the City will undertake required actions, including interim milestones and the frequency of the action.
 - 1.1.3 The position title and contact information for those responsible for implementing or coordinating the BMP's for the SWMP. A Table of Organization is attached in Appendix "A." The Table of Organization includes a primary point of contact and identifies how implementation across multiple positions, agencies and departments will occur.
 - 1.1.4 A rationale for how and why each of the BMP's and measurable goals were selected for the SWMP.
 - 1.1.5 The City of Shannon Hills discharges to a segment of the Otter Creek which does not appear on the 2018 Impaired Water bodies List (303(d) List). A total maximum daily load (TMDL) has not been prepared for this particular segment of the Creek. Since the City has not been determined to be a contributor of impairment, the BMP's have not been reevaluated for or specifically addressed the impairment within the SWMP.
 - 1.1.6 The City of Shannon Hills discharges to a segment of Otter Creek which does not appear on the 2018 Impaired Water bodies List (303(d) List) for turbidity. Therefore, the City

has not re-evaluated its BMP's for the impairment and enhanced BMP's have not specifically addressed the impairment.

2 MINIMUM CONTROL MEASURES

2.1 Public Education and Outreach on Storm water Impacts

- 2.1.1 The City of Shannon Hills has implemented a public education program to distribute educational materials to the community and has conducted equivalent outreach activities about the impacts of storm water discharges on water bodies.
- 2.1.2 *Decision Process.* The City of Shannon Hills has documented the decision process in the section below for the development of the storm water public education and outreach program. The rationale statement addresses the overall public education program, the BMP's, the measurable goals, and the persons responsible for the program. The rationale statement includes the following:
- 2.1.2.1 The City of Shannon Hills plans to inform individuals and households about the steps they can take to reduce storm water pollution through print media, word of mouth and the city website.
- 2.1.2.2 The City of Shannon Hills plans to inform individuals and groups on how to become involved in the storm water program through the same mechanisms listed in 2.1.2.1 (print media, word of mouth, and the city website)
- 2.1.2.3 The target audiences selected for the education program are those that are likely to have significant impacts on storm water. The selected audiences include: residential, commercial, industrial, and land development.

Common individual behaviors such as littering, disposing of trash and recyclables, applying lawn chemicals, washing cars, changing motor-oil on impervious driveways, and certain household behaviors like disposing of leftover paint and chemicals have the potential to generate storm water pollution (13). Therefore, the City selected the residential community as a target audience.

Many commercial activities contribute to storm water pollution. These activities can include vehicle washing, landscape fertilization, improper disposal of automotive fluids, improper disposal of restaurant wastes, as well as many others (19). The City, therefore, selected the commercial community as a target audience.

Uncontrolled storm water runoff from construction sites can significantly impact rivers, lakes and other water bodies (10). New developments and subdivisions are always under construction within the City. For these reasons, and the fact that Part 3.2.1.3 of the new MS4 Permit (NPDES Permit No. ARR040000) requires it, the land development community has also been selected as a target audience.

2.1.2.4 The public education program is designed to address the following target pollutant sources:

- Soil Erosion from Construction Activities
- Fertilizers
- Herbicides/Insecticides
- Household Hazardous Chemicals
- Hazardous Chemicals Used in Commercial & Industrial Processes
- Automotive Fluids
- Restaurant/Grocery Wastes
- Litter/Cigarette Butts

2.1.2.5 The outreach strategy for the City of Shannon Hills includes print, and web based media. Over the permit term, the City expects to reach over 50% of the population. The City's outreach strategy includes four different mechanisms, or Best Management Practices (BMP's). The individual BMP's, and their associated measurable goals, are described in more detail in Section 2.1.2.7.

2.1.2.6 The Public Works Department is responsible for the overall management and implementation of this storm water program.

2.1.2.7 The success of the public education and outreach minimum control measure will be evaluated according to the number of measurable goals that are successfully met each reporting year for their associated BMP's.

Measurable goals have been selected for the BMP's that are cost effective and easily achievable, but still allow the City to effectively reach high percentages of the population with the stormwater message. No schedule for deployment for the BMP's is listed because all four BMP's are already being implemented by the City and will continue to be implemented under the new permit. The individual BMP's and their associated measurable goals are listed below:

2.1.2.7.1 **BMP 1: This section is reserved for a future bmp implementing the use of social media for public outreach**

Goal: Under the new permit, there is not currently a plan in place to use social media as a tool for reaching the community with storm water related information.

2.1.2.7.2 **BMP 2: Post stormwater related information and contacts on the City's website.**

Goal: Stormwater related information and contacts will be updated as necessary under the new permit.

More and more people are turning to the internet as their primary source for information. Posting storm water information and contacts on the internet allows the City to reach those who may not be reached by more traditional means. Information is posted on the Public Works Department's website at <https://www.shannonhills.arkansas.gov/departments/street/>. The information available on the website includes contact information for the Public Works Department, the telephone number for the Storm water Hotline, and the City's

Storm Drainage Standards. Since the contact information and Storm Drainage Standards rarely change, it was determined that the measurable goal for this BMP should only be to update the website as necessary.

This BMP will continue to be implemented under the new permit. The Public Works Department is responsible for ensuring that all information on the website is current.

2.1.2.7.3 **BMP 3: This section is reserved for future implementation of a BMP that utilizes public access television channel to broadcast storm water related public service announcements.**

Goal: Under the new permit, there is not currently a plan in place to broadcast public service announcements related to storm water management through public access television.

2.1.2.7.4 **BMP 4: Distribute storm water related brochures to land development community.**

Goal: Under the new permit, brochures dealing with soil erosion and construction site erosion control will continue to be distributed to all applicants for construction permits.

Storm water runoff from construction sites not only carries sediment, but it can also carry pesticides, cleaning solvents, concrete wash, asphalt, fuel, and motor oil. When land is cleared for development activities, loose sediment and other materials washed from construction sites can pollute our waterways (7). The land development community must be educated about these pollutants and on how to prevent their discharge to our surface waters.

In order to spread the word about construction site erosion control to as many in the land development community as possible, it was decided that the measurable goal for this BMP should be to provide everyone who purchases a New Construction Permit or a Building Permit for New Construction with a brochure on the topic. This allows for the information to be distributed to the larger developers as well as those only involved in residential and commercial construction.

This BMP will continue to be implemented under the new permit. The Engineering Department is responsible for keeping the brochure up-to-date and for distributing the brochure to all New Construction Permit applicants. The Planning Department is responsible for distributing the brochure to all applicants for Building Permits for New Construction.

2.1.3 *Performance Standards.* The storm water public education and outreach program for the City of Shannon Hills includes two mechanisms or BMP's which have been discussed in the previous sections and targets five different storm water themes. The storm water themes, along with the target audiences, are as follows:

- Fertilize Sparingly and Caringly.
 - o Target Audience: Single & Multi-Family Residences, Commercial Businesses, Industrial Businesses, Land Development Community
- Oil and Water Really Don't Mix.
 - o Target Audience: Commercial Auto Shops, Single & Multi-Family Residences
- Only Rain Down the Drain.
 - o Target Audience: Single & Multi-Family Residences, Commercial Businesses, Industrial Businesses
- Be the Solution to Stormwater Pollution.
 - o Target Audience: Land Development Community
- Keep Our Streets Clean -Grass, Leaves, and Litter Pollute Our Rivers and Streams.
 - o Target Audience: Single & Multi-Family Residences

The storm water public education and outreach program is projected to reach at least 50 percent of the population over the permit term.

2.1.4 *Annual Reporting.* The annual report shall identify each mechanism or BMP used, including each storm water theme, audience targeted and estimate of how many people were reached by each mechanism.

2.2 Public Involvement/Participation

2.2.1 The City of Shannon Hills has complied and will continue to comply with State and local notice requirements when implementing the public involvement/participation program.

2.2.2 *Decision Process.* The City of Shannon Hills has documented the decision process in the section below for the development of the storm water public involvement/participation program. The rationale statement addresses both the overall public involvement/participation program and the individual BMP's, measurable goals and responsible persons for the program. The rationale statement includes the following:

2.2.2.1 The City of Shannon Hills will receive public input on the NOI and SWMP. The NOI and SWMP will be posted on the City's website for a 30-day public review period beginning on July 30, 2020. The City will accept comments from the public during this review period. A hard copy will also be available in the Public Works Department office. See BMP 5 in Section 2.2.2.6 for more information.

2.2.2.2 The City of Shannon Hills plans to involve the public in the development and implementation of the program by providing citizens with a variety of activities where they can contribute. The two main considerations of the public involvement/participation program are to give citizens the opportunity to provide the necessary feedback to improve the overall SWMP and to give citizens a desire to serve the community as well as the chance to take an active role in the program.

2.2.2.3 The target audiences for the public involvement/participation program include the following:

- Single & Multi-Family Residences
- Commercial Businesses
- Land Development Community
- Civic Clubs/Organizations

2.2.2.4 The types of public involvement activities or BMP's in the City's SWMP include a public review and comment period, involvement of alternative sentencing personnel in clean-up activities, marking of new manholes by contractors (land development community), volunteer marking of manholes, volunteer clean-up activities, and operating a storm water hotline to receive storm water complaints from citizens. The individual BMP's, and their associated measurable goals, are described in more detail in Section 2.2.2.6.

2.2.2.5 The Public Works Department is responsible for the overall management and implementation of this storm water program. However, other departments, as listed in Section 2.2.2.6, are responsible for implementation of specific BMP's or portions thereof.

2.2.2.6 The success of the public involvement/participation minimum control measure will be evaluated according to the number of measurable goals that are successfully met each reporting year for their associated BMP's.

Measurable goals have been selected for the BMP's that are cost effective and easily achievable, but still allow the City to effectively involve and engage the public in the storm water program. A schedule for deployment is listed for BMP 5 only. No schedule is necessary for the other five BMP's, as they are already being implemented by the City and will continue to be implemented under the new permit. The individual BMP's and their associated measurable goals are listed below:

2.2.2.6.1 **BMP 5: The City will hold a public review and comment period for the NOI and SWMP.**

Goal: Before the NOI and SWMP are approved by ADEQ, the City will hold a 30- day public review period to receive comments and input from the public.

In order to give the public opportunity to provide input in the development of the NOI and SWMP, the City will hold a review period beginning on August 1, 2020 in order to receive questions and comments from the public. This review period will be advertised in the *Arkansas Democrat Gazette* on July 30, 2020, and August 6, 2020. The proposed SWMP will be available online on the City's website, and a hard copy was available for review in the Public Works Department office. The Public Works Department was responsible for implementing this BMP.

2.2.2.6.2 **BMP 6: Utilize alternative sentencing personnel to clean curbs and gutters and pick up trash accumulated along city streets.**

Goal: Alternative sentencing personnel may be utilized in the future to assist with keeping the curbs and gutters clean along city streets.

Alternative sentencing personnel being utilized for minor maintenance work on

the City's storm water drainage system was not part of the original permit and currently there is no plan in place. However, using such personnel in the future may be considered for performing tasks such as: clearing litter from city right-of-ways, cleaning city drainage easements, checking and clearing obstructions from drainage inlets and easements, cleaning dirt and grass from curbs and gutters, cleaning concrete swales, and cleaning leaves from roadside ditches. Using alternative sentencing personnel for such work allows those involved to perform their public service, and it provides them with first-hand knowledge of the pollutants in our waterways and the efforts necessary to remove them. The Public Works Department would be responsible for putting a plan in place and for overseeing the activities of the personnel involved if it is decided by the City of Shannon Hills to make use of this BMP in the future.

2.2.2.6.3 **BMP 7: New storm sewer manhole covers will be marked with the warning: "Storm Sewer-No Dumping-Drains to River."**

Goal: Marking of new manhole covers will continue under the new permit.

Since the first year of the original permit, the City has required that all new manhole covers located in City right-of-way, on both municipal projects and private developments, be marked with the following warning: "Storm Sewer - No Dumping -Drains to River." Placing these covers on new manholes educates both the general public and those installing the covers (the Land Development Community) on the environmental consequences of illegal dumping in storm drains. Installing these manholes also allows the Land Development Community to have an active role in preventing stormwater pollution within the community.

Placement of the marked manhole covers on all new construction will continue under the new permit. The Public Works Department is responsible for ensuring that all new storm sewer manholes have the marked covers.

2.2.2.6.4 **BMP 8: Existing storm sewer manholes will be marked with the warning: "No Dumping -Drains to River."**

Goal: Decals shall be placed on at least 20 manholes per year by citizen volunteers and/or alternative sentencing personnel.

Under the previous permit, the City began a storm drain marker program where members of the public place decals with the warning, "No Dumping -Drains to River," on existing storm sewer manholes. Citizens involved with this work include both volunteers from the general public and members of the City's "A" Team. Placing these decals on existing manholes educates the public on the environmental

consequences of illegal dumping in storm drains. It also allows citizens to become involved in preventing stormwater pollution within the community.

In order to prevent the program from becoming overly burdensome to those involved, it was decided that the minimum marking requirement should be no more than 20 manholes per year. The program for the marking of existing manholes will continue under the new permit. The Public Works Department is responsible for administering the manhole marking program.

2.2.2.6.5 BMP 9: Operate a community hotline for reporting stormwater problems and complaints.

Goal: Hotline will accept calls under the new permit.

The Storm Water Hotline supplements the City's efforts to stop illicit discharges and determine where storm water problems currently exist. Advertising the hotline also further facilitates public involvement in the Storm Water Management Plan (11). The Storm Water Hotline number is 501-455-3195 (Public Works Department phone number).

2.2.2.6.6 BMP 10: Maintain a volunteer Adopt-A-Spot or Adopt-A-Street program to clear trash, yard wastes, and other debris from streets, right-of-way, parking lots, and parks.

Goal: A volunteer Adopt-A-Spot or Adopt-A-Street program be operational under the new permit.

Adopt-A-Spot and Adopt-A-Street programs create a unique partnership between the City of Shannon Hills and its business community, civic organizations, and residents. The programs allow groups or individuals to become directly responsible for the litter abatement and the appearance and upkeep of public rights-of-way, parking lots, parks, planters and green areas. To show its appreciation, the City of Shannon Hills recognizes each of these civic contributions by installing a special "Adopt-A-Spot" sign to commemorate the participating organization.

2.2.3 *Performance Standards.* The City of Shannon Hills storm water public involvement/participation program shall include at least five public involvement activities over the permit term.

2.2.4 *Annual Reporting.* The City of Shannon Hills shall utilize the standard annual report form developed by ADEQ. The annual report shall identify each public involvement/participation activity conducted, including a brief description of the activity and an estimate of how many people participated.

2.3 Illicit Discharge Detection and Elimination

2.3.1 The City of Shannon Hills has developed, implemented and is enforcing a program to detect and eliminate illicit discharges. "Illicit Discharge" shall be defined as any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from emergency fire fighting activities.

2.3.2 Under the previous permit, the City of Shannon Hills completed a storm sewer system map for the entire MS4 system. The map includes the following: outfalls, surface waters of the State receiving discharges from those outfalls, catch basins, pipes, ditches, and public and private storm water facilities.

Under the new permit, the storm sewer system map will be updated periodically to include any newly constructed storm water facilities.

2.3.3 Prior to the original permit, the City of Shannon Hills effectively prohibited through ordinance illicit discharges into the storm sewer system. The City has also implemented appropriate enforcement procedures and actions.

2.3.4 Under the previous permit, the City of Shannon Hills developed and implemented a plan to detect and eliminate non-storm water discharges to the system, including illegal dumping. See 2.3.6 and 2.3.7 for exceptions to this requirement.

2.3.5 Under the new permit, the City of Shannon Hills shall continue to inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

2.3.6 The categories of non-storm water discharges or flows (i.e. illicit discharges) listed in 2.3.7 have not been identified as significant contributors of pollutants to the City of Shannon Hills, therefore, they have not been addressed in the SWMP.

2.3.7 The following incidental non-storm water discharges will not be addressed as illicit discharges:

- Waterline flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Non-commercial or charity car washes
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Backwashing discharges from swimming pools
- Street wash water
- Discharges or flows from emergency fire fighting activities

Any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to the MS4 shall be prohibited.

Landscape irrigation, discharges from potable water sources, irrigation water, lawn watering, individual residential car washing, non-commercial or charity car washes, and street wash water are all regulated by the Shannon Hills Water Conservation Program. This program consists of year-round water conservation measures which are intended to prevent the wasteful use of water and a Two-Phase water conservation plan in the event the water supply lake levels drop due to lack of rainfall. Phase I of the plan will go into effect when lake levels drop from 91,100 acre-feet (100%) to a capacity of 55,000 acre-feet (60%) and will continue until lake levels remain above 56,000 acre-feet (61%) for 15 consecutive days. Phase II will go into effect when the total usable water storage decreases to 36,000 acre-feet (39%). The restrictions and prohibitions of Phase II will be removed when the lake levels remain above 41,000 acre-feet (45%) for 15 consecutive days (4).

Whenever an emergency exists as determined by the City Administrator, or his designated agent, by reason of a shortage of water, limited distribution facilities or any other circumstances which make it necessary to immediately conserve water, the City

Administrator, or his designated agent, have the authority to implement the conservation measures of Phase I and/or Phase II of the Shannon Hills Water Conservation Program and other conservation measures which are necessary to maintain potable water for essential public health and safety functions. Once implemented, these emergency measures remain in effect until the next regularly scheduled meeting or special meeting of the Board of Directors at which time the Board decides whether it is necessary to continue the said measures (4).

Listed below are the things that you cannot do under the year-round water conservation program. During time periods when water conservation measures are not in effect, the following limitations or prohibited uses of water are in effect:

- 1 No person shall use water for the irrigation or watering of lawns, turf, shrubs, plants, trees or gardens to such an extent as to allow water to escape from user's premises onto public property, such as alleys or streets, nor onto another person's property.
- 2 No person shall irrigate or water lawns, turf, shrubs, plants, trees or gardens between the hours of 11:00 a.m. and 6:00 p.m. (not applicable to greens and tee boxes on golf courses).
- 3 No person during the course of cleaning or washing motor vehicles, aircraft, building exteriors, sidewalks, walkways, driveways, patios, decks, fences, parking lots, tennis courts, or other similar types of hard surfaces, with a hose or other equipment, will allow the flow of water to be used or uncontrolled at the point of use, or to continue if unattended, such that water is wasted.
- 4 No person shall use potable water for any construction activity that can be performed using non-potable water unless approved by the Director of Utilities, or his designated representative, and, if required by same, shall be conducted under the direct supervision of an employee of the City of Shannon Hills Utility Department.
- 5 No person shall use water from a fire hydrant unless approved by the Director of Utilities, or his designated representative, and, if required by same, shall be conducted under the direct supervision of an employee of the City of Shannon Hills Utility Department. Any such use shall be registered through a City owned meter issued under a permit for a specific use, time period, location and, if further specified, for a maximum volume of use (4).

An initial conservation phase (Phase I) will go into effect when lake levels drop from 91,100 acre-feet (100%) to a capacity of 55,000 acre-feet (60%) and will continue until lake levels remain above 56,000 acre-feet (61%) for 15 consecutive days. Phase I conservation measures consist of the following restrictions and prohibitions on the use of City water:

- 1 The following uses of water are permitted at locations with even-numbered addresses on even-numbered days of the month only and at locations with odd numbers addresses on odd-numbered days of the month only: Lawn watering; watering of shrubs, plants, trees and gardens; the washing of motor vehicles, trailers, airplanes or boats (not applicable to commercial car washes); filling swimming pools or fountains; and washing of building exteriors.
- 2 No person shall use water as provided for in (1) to such an extent as to allow water to escape from his premises onto public property, such as alleys or streets, nor onto another person's property.
- 3 Golf course watering and other commercial irrigation from City sources shall be done only to the extent necessary to preserve turf and other plant life and at such times during the day as to minimize water loss due to evaporation.
- 4 The use of water from fire hydrants at any time for construction purposes, fire drills, or routine hydrant testing is prohibited. Only non-potable water may be used for dirt compaction, earth moving operations, or street base course construction.
- 5 The washing of sidewalks, walkways, driveways, patios, parking lots, concrete tennis courts, and other hard-surfaced areas by hosing or by use of water directly from faucets or other City sources is prohibited. Food processing and food service establishments may engage in such use of water only to the extent necessary to maintain and preserve the public health, and in compliance with any state or federal regulations. Restaurants and other food service establishments may hose or wash only walkways immediately adjacent to entrances and not beyond ten (10) feet of entrances and not beyond ten (10) feet of garbage facilities, food delivery or food serving areas.
- 6 No person shall irrigate or water lawns, turf, shrubs, plants, trees or gardens between the hours of 10:00 a.m. and 7:00 p.m. (not applicable to greens and tee boxes on golf courses).
- 7 The City shall have the authority to install flow restriction devices on those lines to contract water users which exceed their contractual allocation. Installation of flow, restriction devices shall require specific approval of the Board of Directors of the City of Shannon Hills before installation (4).

An advanced conservation phase (Phase II) shall go into effect when the following conditions occur when the total usable water storage decreases to a 36,000 acre-feet (39%). The restrictions and prohibitions of Phase II shall be removed when the lake levels remain above 41,000 acre-feet (45%) for 15 consecutive days. Phase II conservation measures consist of all Phase I measures PLUS the following restrictions and prohibitions on the use of City water:

- (1) The watering of shrubs, plants, trees and gardens is permitted only by hand held hose and should be limited to the minimum amounts necessary to sustain plant life.

Such watering is permitted at locations with even numbered addresses on even numbered days of the month only and at locations with odd numbered addresses on odd numbered days of the month only. All lawn and turf watering from City sources is prohibited.

(2) Golf course watering and other commercial irrigation from City sources shall be done only to the extent necessary to preserve turf and other plant life. Golf courses are permitted to water only greens and tee boxes from City sources. Golf course fairway and rough watering and school football and baseball field watering from City sources is specifically prohibited.

(3) All washing of motor vehicles, trailers, airplanes, boats or building exteriors is prohibited, except at commercial car washes and licensed commercial vehicle dealerships. Licensed commercial dealerships shall limit washing to Tuesday and Friday only. The filling of swimming pools or outdoor fountains and outdoor fountain operation is prohibited (4).

2.3.8 *Decision Process.* The City of Shannon Hills has documented the decision process for the development of the storm water illicit discharge detection and elimination program. The rationale statement addresses the overall illicit discharge detection and elimination program and the individual BMP's, measurable goals, and responsible persons for the program. The rationale statement includes the following:

2.3.8.1 The City of Shannon Hills will continue to update and maintain the storm sewer system map. The development process, as well as the process for updating the map, are described in more detail under BMP 11 in Section 2.3.8.7.

2.3.8.2 The City of Shannon Hills will continue to prohibit illicit discharges to the storm sewer system by ordinance. This ordinance is described in more detail under BMP 12 in Section 2.3.8.7. A copy of the relevant sections of the ordinance is also contained in Appendix "B."

2.3.8.3 The City of Shannon Hills will continue to ensure that the ordinance prohibiting illicit discharges is implemented through the use of appropriate enforcement procedures and actions. The plan for accomplishing this is described in more detail under BMP 12 in Section 2.3.8.7.

2.3.8.4 The City of Shannon Hills will continue to detect and address illicit discharges to the MS4 system, including discharges from illegal dumping and spills. The plan for accomplishing this is described in more detail under BMP's 12, 13, and 14 in Section 2.3.8.7. The plan includes: procedures for locating priority areas, procedures for tracing the source of an illicit discharge, procedures for removing the source of the illicit discharge, and procedures for program evaluation and assessment.

2.3.8.5 The City of Shannon Hills plans to inform businesses and the general public of the hazards associated with illegal discharges and improper disposal of wastes through the BMP's described in the public education and outreach minimum control measure. These BMP's include posting storm water related articles online and any other available media that is available to city resources.

The City plans to inform public employees about the same hazards through the employee training BMP described in the pollution prevention/good housekeeping minimum control measure in sections 2.6.3.2 and 2.6.3.3.2.

2.3.8.6 The City of Shannon Hills Public Works Department is responsible for overall management and implementation of the stormwater illicit discharge detection and elimination program. However, other departments, as listed in Section 2.3.8.7, are responsible for the implementation of specific BMP's or portions thereof.

2.3.8.7 The success of the illicit discharge detection and elimination minimum control measure will be evaluated according to the number of measurable goals that are successfully met each reporting year for their associated BMP's.

Measurable goals have been selected for the BMP's that will allow the City to detect and eliminate illicit discharges without creating the need for additional personnel. No schedule for deployment for the BMP's is listed because all four BMP's are already being implemented by the City and will continue to be implemented under the new permit. The individual BMP's and their associated measurable goals are listed below:

2.3.8.7.1 **BMP 11: Update and maintain storm sewer system map.**

Goal: Under the new permit, the storm sewer system map shall be updated at least once annually to include all newly constructed public and private storm sewers and drainage ditches.

The storm sewer map aids the City in targeting outfalls with dry weather flows and other suspicious discharges for more in-depth inspection. It also aids in coordinating management activities to remove illicit connections and track storm drain system maintenance (11). The City will continue to update it at least once annually under the new permit. The Public Works Department is responsible for maintaining and updating the storm sewer system map.

2.3.8.7.2

BMP 12: Prohibit illicit discharges by ordinance.

Goal: Enforcement of the ordinance shall continue under the new permit.

An ordinance that prohibits illicit discharges to the storm sewer system within the City of Shannon Hills went into effect in 1997. Specifically, the regulations are found in Section 25-183 (a) and (b) and in Section 25-186 (a) of the municipal code. Under the new permit, the City will continue to ensure that these regulations are being implemented through the use of appropriate enforcement measures. The enforcement measures and penalties are outlined in Sections 1-9 and 25-192 of the municipal code.

Copies of Sections 1-9, 25-183 (a) and (b), 25-186 (a), and 25-192 have been included in Appendix "B" for further reference. Both the Public Works Department and the Utility Department are responsible for ensuring the ordinance is enforced and illicit discharges are abated.

2.3.8.7.3

BMP 13: Prohibit illegal dumping by ordinance.

Goal: Enforcement of the ordinance will continue under the new permit.

Illegal dumps degrade surface water quality, give off offensive odors, and present direct health hazards from vectors among many other things (1). Ordinances have been developed addressing these issues. Chapters 16 and 25 of the municipal code prohibit illegal dumping. These ordinances are enforced by the City's Public Works Department. The City will continue to enforce these ordinances prohibiting illegal dumping under the new permit.

2.3.8.7.4

BMP 14: Dry weather inspection of storm sewer system.

Goal: A dry weather survey of 20% of the storm drain system outfalls per year will be conducted to identify non-storm water flows. After each year's survey is complete, areas found to have suspicious discharges will be inspected further to detect suspected direct connections to the wastewater system and identify areas where wastewater might be leaking into adjacent storm drain pipes. Inspections will continue under the new permit.

Targeted inspection of areas where high nutrient levels, suds and oily discharges, or dry weather flows are found allows the City to efficiently and effectively identify locations where illicit connections to the storm drain system exist. Outfalls with suspicious discharges will be further tested in the field by single parameter analysis. The indicator chemical used will be ammonia.

Under the new permit, the City will only prioritize those areas where dry weather discharges are observed. Once a suspicious discharge has been identified, two different methodologies will be employed to trace the source of the possible illicit discharge-storm drain network investigation and on-site investigation. Both of these methodologies are more fully described in chapter 13 of *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments* (3).

With storm drain network investigation, field crews from the Public Works Department will strategically inspect manholes within the storm sewer system to measure physical indicators or perform single parameter analysis (ammonia) in order to isolate discharges to a specific segment of the network. Field crews shall inspect the manholes and the storm sewer system by one of the following three options:

- Field crews can work progressively up the trunk from the outfall and test manholes along the way (Small diameter outfall, < 36"; Simple drainage network).
- Field crews can split the trunk into equal segments and test manholes at strategic junctions in the storm sewer system (Large diameter outfall, > 36"; Complex drainage; Logistical or traffic issues).
- Field crews can work progressively down from the upper parts of the storm sewer network toward the problem outfall (Very large drainage area, > one square mile) (3).

Once field crews have identified the pipe segment, on-site investigations will be used to find the specific discharge or improper connection. The three basic approaches that will be utilized for on-site investigations are dye, video, and smoke testing (3).

In order to eliminate the source, the following questions must be answered by City staff about each individual illicit discharge to determine how to proceed:

- Who is responsible?
- What methods will be used to fix the problem?
- How long will it take?
- How will removal be confirmed (3)?

The answers to these questions will depend upon the source of the discharge. Illicit discharges will generally originate from one of the following sources:

- An internal plumbing connection
- A service lateral cross-connection
- An infrastructure failure within the sanitary sewer
- An indirect or transitory discharge resulting from leaks, spills, or overflows (3)

The financial responsibility for removal of the source will typically fall on property owners, the City, or some combination of the two (3).

Dry weather inspections of the storm drain system will continue under the new permit. Initial inspections will be the responsibility of the Operations Department. Follow-up inspections on outfalls or segments found to have suspicious discharges will be the responsibility of the Public Works Department. The illicit discharge detection and elimination program will be evaluated at least once annually to assess if the goals of the program are being achieved.

2.3.9 *Performance Standards.* The storm water illicit discharge detection and elimination program includes dry-weather screening of all storm water outfalls located in the City's urbanized area. Outfalls draining undeveloped watersheds will not be screened for illicit discharges. The storm sewer system map shall be updated annually as needed for changes occurring in the urbanized area boundaries.

2.3.10 *Annual Reporting.* The City of Shannon Hills shall utilize the standard annual report form developed by ADEQ. The annual report will document the following:

- Number of outfalls dry-weather screened
- Number of dry-weather flows identified
- Number of illicit discharges identified
- Number of illicit discharges eliminated
- Schedules for elimination of illicit connections that have been identified but have yet to be eliminated
- Summary of any storm sewer mapping updates

2.4 Construction Site Stormwater Runoff Control

- 2.4.1 The City of Shannon Hills has developed, implemented, and is enforcing a program to reduce pollutants in stormwater runoff from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollutants in stormwater discharges from construction activity disturbing less than one acre has also been included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. This program included the development and implementation of:
- 2.4.1.1 An ordinance to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State and local law. The ordinance is at least as stringent and not conflicting with the criteria set forth in the current, at time of issuance of the new MS4 permit, ADEQ NPDES General Stormwater Permit for Construction Activities.
 - 2.4.1.2 Requirements for construction site operators to implement appropriate erosion and sediment control BMP's.
 - 2.4.1.3 Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts on water quality.
 - 2.4.1.4 Procedures for site plan review which incorporate consideration of potential water quality impacts.
 - 2.4.1.5 Procedures for receipt and consideration of information submitted by the public.
 - 2.4.1.6 Procedures for site inspection and enforcement of control measures.
- 2.4.2 *Decision Process.* The City of Shannon Hills has documented the decision process for the development of the construction site stormwater control program. The rationale statement addresses the overall construction site stormwater control program and the individual BMP's, measureable goals, and responsible persons for the program. The rationale statement includes the following information:
- 2.4.2.1 The City of Shannon Hills will continue to require erosion and sediment controls at construction sites. Erosion and sediment controls are required by the City's Runoff Control Ordinance. This ordinance is described in more detail under BMP 15 in Section 2.4.2.8. A copy of the relevant sections of the ordinance is also contained in Appendix "C."

- 2.4.2.2 The City of Shannon Hills will continue to ensure compliance with the Runoff Control Ordinance through the use of sanctions and other enforcement mechanisms. The sanctions, enforcement mechanisms, and enforcement procedures are described in more detail under BMP 15 in Section 2.4.2.8 and in the relevant sections of the ordinance which are included in Appendix "C."
- 2.4.2.3 The City of Shannon Hills will continue to require construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites that may cause adverse impacts to water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste. The control of these wastes at construction sites is discussed in more detail under BMP 15 in Section 2.4.2.8.
- 2.4.2.4 The City of Shannon Hills will continue to review pre-construction site plans for all sites disturbing one or more acres for potential water quality impacts. Procedures for the site plan review process are discussed in more detail under BMP 17 in Section 2.4.2.8.
- 2.4.2.5 The City of Shannon Hills will continue to receive and consider information submitted by the public. Procedures for receipt and consideration of this information are discussed in more detail under BMP's 18 and 19 in Section 2.4.2.8.
- 2.4.2.6 The City of Shannon Hills will continue to perform monthly inspections on all sites disturbing one or more acres. Sites will be inspected to ensure compliance with the City's Runoff Control Ordinance. Procedures for inspections are discussed in more detail under BMP 20 in Section 2.4.2.8.
- 2.4.2.7 The City of Shannon Hills Public Works Department is responsible for the overall management and implementation of the stormwater control program. However, other departments, as listed in Section 2.4.2.8, will be responsible for the implementation of specific BMP's or portions thereof.
- 2.4.2.8 The success of the construction site stormwater runoff control minimum control measure will be evaluated according to the number of measurable goals that are successfully met each reporting year for their associated BMP's. Measurable goals have been selected for the BMP's that will allow the City to reduce pollutants from construction sites without creating the need for additional personnel. The individual BMP's and their associated measurable goals are listed below:

2.4.2.8.1 **BMP 15: Require erosion and sediment controls at construction sites by ordinance.**

Goal: Enforcement of the runoff control ordinance shall continue under the new permit.

According to this ordinance, construction site operators are required to implement appropriate erosion and sediment control BMP's. Natural vegetation must be retained wherever practicable in order to minimize the potential for soil loss. Erosion control devices must be in place prior to the start of grading. Soil stabilization shall be complete within two weeks of clearing or inactivity in construction. If seeding or another vegetative erosion control method is used, the vegetation shall become established within three weeks or the City may require that the site be reseeded and/or mulched to stabilize the site. The entire disturbed area must be stabilized by seeding and mulching when site grading is complete. The City may require seeding and mulching on any part of the site that will remain inactive for longer than two weeks or when an erosion problem is identified.

If a wet watercourse will be crossed regularly during construction a temporary stream crossing will be required. The watercourse channel must be stabilized after any in-channel work. Stabilization adequate to prevent erosion shall be located at the outlets of all pipes and paved channels.

A temporary access road is required at all sites. Other measures may be required by the City to ensure that sediment is not washed into the storm drains and construction vehicles do not track sediment onto public streets.

Structural controls must be installed and maintained to reduce sediment from storm water runoff. They must be installed after the clearing necessary for the installation of the controls, but before the clearing for the remaining portions of the site. Techniques that divert upland runoff past disturbed slopes shall also be employed.

Dust abatement measures must be provided as often as necessary to prevent the operations from producing dust in amounts damaging to property, cultivated vegetation, domestic animals, or causing a nuisance to persons living or occupying buildings in the vicinity of the work area.

Clearing and grading of natural resources, such as wetlands, shall not be permitted, except when in compliance with the ordinance and with applicable state and federal laws. Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control measures have been installed.

Measures must be installed that will prevent the discharge of solid materials, including building materials, to waters of the State. The measures utilized must ensure and demonstrate compliance with State and City waste disposal as well as temporary and permanent sanitary sewer or septic system regulations. If concrete washout will occur on site, measures must be provided to prevent the discharge of concrete washout waters to waters of the State. Measures must also be provided to

prevent discharges from fuel storage areas, hazardous waste storage, and truck wash areas to waters of the State.

Permitting under the City's Runoff Control Ordinance requires submittal of a permit application, an erosion and sediment control plan (storm water pollution prevention plan), and a grading plan (site plan with erosion controls) for review and approval. The erosion and sediment control plan and the grading plan must meet the requirements of the latest version of the ADEQ NPDES General Storm water Permit for Construction Activities. Sites disturbing less than an acre are not required to obtain a permit, however, all sites regardless of size must meet the minimum erosion control requirements outlined in the ordinance or be subject to enforcement actions.

An initial permit is valid for only six months. All permits are subject to review and re-approval and all re-approvals are subject to any reasonable additional requirements as may be deemed necessary by the City Engineer. At any time the City Administrator or his/her designated agents become aware of a potential violation of the requirements, a notice to that effect is issued to the person(s) engaged in the activity. The notice specifies the alleged violation and requires the person(s) engaged in the activity to provide engineering documentation certifying the reasonableness of their actions with reference to the permit requirements. In absence of submitted documentation or after review of same, the City may proceed with enforcement. In the event that any person(s) fails to meet the minimum standards of this ordinance, the City may suspend the activities through a stop-work order or may revoke the permit. Any person(s) judicially determined to be in violation of the ordinance shall be deemed guilty of a misdemeanor and shall be subject to the penalties set forth in section 1-9 of the municipal code.

The City will enforce the Runoff Control Ordinance under the new permit. The Engineering Department is responsible for enforcing the Runoff Control Ordinance, except on Utility Department projects. The Utility Department is responsible for ensuring that their projects comply with the City's Runoff Control Ordinance. A copy of the Runoff Control Ordinance is attached in Appendix "C."

2.4.2.8.2

BMP 16: Require all construction activities disturbing greater than one acre be covered under ADEQ Storm Water Construction General Permit.

Goal: Under the new permit, the City will continue to require the following to be submitted prior to approval of a New Construction Permit: (a.) a copy of the NOI for coverage under ADEQ's Storm Water Construction General Permit for all construction projects disturbing five or more acres; (b.) for sites disturbing one or

more acres, but less than five acres, a copy of the Automatic Coverage Construction Site Notice for coverage under ADEQ's Storm Water Construction General Permit.

Construction sites can be a significant source of sediment for City storm drains. To prevent sediment from entering storm drains it is important to plan for erosion and sediment control practices and procedures in advance of starting construction (11). Requiring developers to submit a copy of an NOI or Automatic Coverage Construction Site Notice has provided some additional assurance that careful preliminary planning for erosion and sediment control has been accomplished.

Submittal of the NOI or Automatic Coverage Construction Site Notice will continue as a requirement of the Runoff Control Ordinance under the new permit. With the exception of Utility Department projects, the Public Works Department is responsible for ensuring that copies of the proper notices have been submitted. The Utility Department is responsible for maintaining records of notices on Utility Department projects.

2.4.2.8.3 **BMP 17: For all developments that will disturb one or more acres, review site plans to evaluate potential water quality impacts.**

Goal: Procedure for reviewing site plans is currently in place and shall be continued under the new permit.

No person shall conduct any grading that would alter an area one acre or more in size, or would occur over or within 15 feet of an existing utility line, without first notifying the City. Each application for a permit must include a grading plan (site plan with erosion controls) and an erosion and sediment control plan (storm water pollution prevention plan). No permit is required for the following activities:

- Excavations below finished grade - including basements, footings, swimming pools, hot tubs, septic systems, retaining walls, and like structures authorized by a valid building permit;
- Cemetery graves;
- Refuse disposal - if controlled by other federal, state, or local regulations;
- Construction of one single-family or duplex residence;
- Building additions - less than 2,000 square feet authorized by a valid building permit;
- Emergency work or repairs immediately necessary to protect life, property or natural resources;
- Nursery and agricultural operations.

Public and private utility organizations may obtain a one-time approval for all routine underground electric, water, sewer, natural gas, telephone, or cable

facilities. The approval will include a utility organization and its contractors, agents, or assigns and will be permanent in nature as long as the original approval procedures are followed.

Applications submitted to the Planning Department for a Site Development Permit shall be reviewed by the Engineering Department to determine their conformance with the provisions of the Runoff Control Ordinance. Grading plans shall be evaluated for conformance with minimum erosion control requirements. Within seven working days after receiving a properly completed application, the City shall, in writing:

- Approve the permit application; or
- Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of the ordinance; or
- Disapprove the permit application, informing the applicant of the reason(s) therefore, and of the procedure for submitting a revised application and/or submission.

The requirements of the ordinance may be varied by the Public Works Department upon written application by the person engaged in the grading. Variances may be granted upon determination that the literal application of the provisions of the ordinance would result in an unreasonable hardship. The denial of a variance is subject to review by the City Administrator. The review by the City Administrator shall be conducted on the written record and the applicant shall have the right to submit written support materials. The decision of the City Administrator shall constitute the final administrative action of the City.

The Public Works Department is responsible for reviewing site plans for potential water quality impacts.

2.4.2.8.4

BMP 18: The City will address all construction stormwater complaints that fall within the jurisdiction of the City's Runoff Control Ordinance. In the event that a substantiated complaint cannot be addressed by the Runoff Control Ordinance, the City will forward that complaint to ADEQ.

Goal: The City will continue to address all construction storm water complaints that fall within the jurisdiction of the City's Runoff Control Ordinance under the new permit. Any substantiated complaint that cannot be addressed by the Runoff Control Ordinance will be forwarded to ADEQ.

Under the new permit, the City will continue to address all construction stormwater complaints that fall within the jurisdiction of the City's Runoff Control Ordinance. In the unlikely event that a substantiated complaint arises that cannot be dealt with by the Runoff Control Ordinance, City Staff will forward that complaint to ADEQ.

In order to gain public input about possible violations, the City will coordinate this effort with the public education program through BMP 19. The Public Works Department is responsible for responding to construction stormwater complaints.

2.4.2.8.5 **BMP 19: Publicize the stormwater hotline on the City's website.**

Goal: Under the new permit, the stormwater hotline will be posted on the City's public website.

City staff can't be on every construction site every day, therefore, staff will also have to rely on citizen input and complaints to determine problem areas. In order to achieve this, the City will coordinate the construction site stormwater control program with the public education program. This will be accomplished by publicizing the stormwater hotline and its purpose through PSA's on the City's website. The Public Works Department will be responsible for developing PSA's and Facebook posts.

2.4.2.8.6 **BMP 20: Construction sites disturbing one or more acres shall be inspected monthly.**

Goal: Under the new permit, the City shall continue monthly inspections of construction sites that disturb one or more acres.

Under the new permit, monthly inspections of construction sites disturbing one or more acres shall continue. Public Works Department staff shall make the inspections and shall either approve that portion of the work completed or shall notify the property owner wherein the work fails to comply with the approved storm water pollution prevention plan. During construction, the property owner shall keep approved plans for grading, stripping, excavating, and filling work on site. In order to obtain inspections, the property owner shall notify the Public Works Department at least two working days before the start of construction. At least one inspection per month will be conducted until the project is completed. The property owner shall notify the Public Works Department at least two working days before final stabilization occurs.

The property owner is also required to make regular inspections of all control measures in accordance with the inspection schedule outlined on the approved storm water pollution prevention plan. The purpose of such inspections will be to determine the overall effectiveness of the control plan, and the need for additional

control measures. All inspections must be documented in written form. Public Works Department staff are also authorized to enter the property as deemed necessary to make regular inspections to ensure the validity of the reports filed by the property owner.

All sites disturbing one or more acres will be inspected monthly, therefore, no prioritization will be required. If deficiencies are found during the inspection, property owners will be given three days to correct the deficiencies. If the deficiencies are not corrected within three days, a stop-work order will be issued, and their New Construction Permit may be revoked. If deficiencies continue, or if a property owner refuses to comply, the case may be turned over to the prosecuting attorney's office.

2.4.3 *Performance Standards.* The City of Shannon Hills construction site storm water control program shall include pre-construction site plan reviews (reviews of construction site Storm water Pollution Prevention Plans) of 100 percent of projects from construction activities that result in a land disturbance of greater than or equal to one acre. These applicable sites shall be inspected at least on a monthly basis to ensure compliance.

2.4.4 *Annual Reporting.* The City of Shannon Hills shall utilize the standard annual report form developed by ADEQ. The annual report shall document the following:

- Number of applicable sites in the jurisdiction of the City of Shannon Hills
- Number of pre-construction site plan reviews performed
- Number and frequency of site inspections
- Number of violation letters issued
- Number of enforcement actions taken
- Number of complaints received and number followed up on

2.5 Post-Construction Storm water Management in New Development and Redevelopment

2.5.1 The City of Shannon Hills has developed, implemented, and is enforcing a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge within the City. The program ensures that controls are in place that will prevent or minimize water quality impacts.

2.5.2 The City of Shannon Hills has developed and implemented strategies which include a combination of structural and/or non-structural BMP's appropriate for the community.

- 2.5.3 The City of Shannon Hills Storm Drainage Standards, address post-construction runoff from new development and redevelopment projects to the extent allowable under State and local law. The Storm Drainage Standards are at least as stringent as the criteria set forth in the current, at the time of issuance of the new MS4 permit, ADEQ NPDES General Storm water Permit for Construction Activities. The Storm Drainage Standards also require a goal of at least 80% removal of total suspended solids from flows which exceed predevelopment levels when designing and installing storm water management controls (where practicable).
- 2.5.4 The City of Shannon Hills post-construction SWMP also ensures adequate long-term operation and maintenance of BMP's. The Storm Drainage Standards specify that public BMP's will be maintained by the City and private BMP's will be maintained by the property owner. For private BMP's, the property owner is required to have a signed maintenance agreement with the City.
- 2.5.5 *Decision Process.* The City of Shannon Hills has documented the decision process for the development of the post-construction SWMP. The rationale statement addresses both the overall post-construction SWMP and the individual BMP's, measureable goals, and responsible persons for the program. The rationale statement includes the following information:
- 2.5.5.1 The post-construction SWMP for the City of Shannon Hills addresses both new development and redevelopment projects. If hydrologic and hydraulic studies reveal that the post-development runoff for a proposed development or redevelopment project one acre or more in size will exceed the pre-development runoff, and the existing drainage system is not adequate to carry the post-development runoff, then the proposed development or redevelopment project is not permitted unless one or more of the following mitigation measures are used: onsite detention, off site or regional detention, or improvements to the existing drainage system.

Development and redevelopment projects one or more acres in size (or less than an acre if part of a larger common plan of development) that will increase the impervious area onsite, are not permitted without employing BMP's to address the water quality of the surface waters being discharged from the site. All BMP's or systems of BMP's utilized to address water quality are required to capture and treat the Water Quality Volume (WQv).

Areas where the land use or activities on site generate highly contaminated runoff with concentrations of pollutants in excess of those typically found in storm water are known as Storm water Hot Spots. When developing or redeveloping a hot spot site, a greater level of storm water treatment is needed to prevent pollutant washoff after construction. This typically involves preparing and implementing a SWPPP that involves a series of

operational practices at the site that reduces the generation of pollutants by preventing contact with rainfall. For the purposes of the City's Drainage Standards, Stormwater Hot Spots are classified as industrial facilities that:

- Have Standard Industrial Classification (SIC) codes listed in "40 CFR 122.26(b)(14)Subpart(i)-(xi)"
- And, are required to submit applications for a stormwater permit to ADEQ.

2.5.5.2 The post-construction SWMP has been tailored to the City of Shannon Hills by allowing the use of various detention practices to maintain pre-development runoff conditions and allowing the use of both acceptable and sub-standard BMP's to minimize water quality impacts. Allowable publicly owned detention practices include stormwater ponds and wetlands. Other detention methods such as infiltration trenches, infiltration basins, etc., may be used with proper documentation for privately owned detention, however, the practice will be discouraged. Acceptable BMP's for water quality are those that are designed to capture and treat the WQv with a goal of at least 80% removal of total suspended solids (TSS) from post-construction discharges. BMP's that meet this requirement can be divided into the following five basic groups:

- Stormwater Ponds
- Wetlands
- Infiltration Systems
- Filtering Systems
- Open Channel Systems (8)

Sub-standard BMP's are those which do not qualify as "stand alone" practices for full WQv treatment. By themselves, these BMP's are unable to remove 80% TSS from post-construction discharges. However, sub-standard BMP's can be used appropriately for pretreatment, or in combination with other BMP's as part of an overall "treatment train," or may be applied in redevelopment situations on a case by case basis where other practices are not feasible (8).

The Shannon Hills post-construction SWMP includes non-structural BMP's in the form of Stormwater Credits. The purpose of the stormwater credit system is to provide incentive to developers, engineers, and builders to implement better site design and locate new development in a manner that causes less impact to aquatic resources. By taking advantage of the credit system, developers and builders are able to reduce the storm water quality requirements. The credit system directly translates into cost savings to the developer by reducing the water quality volume that has to be captured and treated (8).

Two broad types of credits are included in the system: Site Design Credits and Watershed Credits. Site Design Credits act as incentives to encourage better site design techniques by reducing required water quality volumes on site. Watershed Credits are reductions or exemptions from stormwater management requirements to support watershed goals such as redevelopment or watershed zoning (8).

Site Design Credits allow developers to reduce or eliminate requirements for water quality in exchange for implementation of certain non-structural site design elements. The credits are calculated as volumes that are based on the fraction of the total site area or site impervious area affected by the credit. The following Site Design Credits are included in this program:

- Conservation of Natural Areas
- Reforestation
- Rooftop Disconnection
- Non-Rooftop Disconnection
- Green Rooftops

Watershed Credits focus on the location of the development, rather than on the design of the site. They reward developers who locate in areas that result in less impact to water resources by encouraging development in already urbanized or highly degraded areas. Three Watershed Credits are included in this program:

- Watershed Zoning
- Infill
- Redevelopment (8)

2.5.5.4 Structural BMP's in the City of Shannon Hills post-construction SWMP include both acceptable and sub-standard BMP's. Acceptable BMP's can be divided into five basic groups. The basic groups and individual BMP's are listed below:

Group 1: Storm water Ponds

- Micropool Extended Detention Pond
- Wet Pond
- Wet Extended Detention Pond
- Multiple Pond System
- "Pocket" Pond

Group 2: Wetlands

- Shallow Wetland
- ED Shallow Wetland

- Pond/Wetland System
- "Pocket" Wetland

Group 3: Infiltration Systems

- Infiltration Trench
- Infiltration Basin

Group 4: Filtering Systems

- Surface Sand Filter
- Underground Sand Filter
- Perimeter Sand Filter
- Organic Filter
- Bioretention

Group 5: Open Channel Systems

- Dry Swale
- Wet Swale
- Grass Channels (8)

Sub-standard BMP's include, but are not limited to, the following practices:

- Dry Extended Detention Ponds
- Catch Basin Inserts
- Water Quality Inlets and Oil/Grit Separators
- Hydro-Dynamic Structures
- Filter Strips
- Deep Sump Catch Basins
- Dry Wells
- On-Line Storage in the Storm Drain Network (8)

2.5.5.5 The mechanism the City of Shannon Hills uses to address post-construction runoff from new developments and redevelopments is the City's Storm Drainage Standards.

2.5.5.6 For BMP's where ownership is vested in the City of Shannon Hills, long-term operation and maintenance is the responsibility of the City. When ownership of a BMP is not vested in the City, the operation and maintenance responsibility is vested with a responsible party by means of a legally binding and enforceable maintenance

agreement that is executed as a condition of plan approval or the permitting process (also, see BMP 23 in Section 2.5.5.8.3).

2.5.5.7 The Public Works Department is responsible for the overall management and implementation of the post-construction SWMP, however, the Operations Department is responsible for maintenance of publicly owned BMP's.

2.5.5.8 The success of the post-construction storm water management minimum control measure will be evaluated according to the number of site plans reviewed for compliance with the City's post-construction storm water management requirements and the number of post-construction storm water BMP's correctly installed.

Measurable goals have been selected for the BMP's that will ensure developments are constructed with improvements that will reduce pollutant levels in post-construction storm water without creating the need for additional City personnel to review and inspect the improvements. The individual BMP's and their associated measurable goals are listed below:

2.5.5.8.1 **BMP 21: Review site plans for compliance with the post-construction storm water management requirements.**

Goal: All development and redevelopment projects disturbing one or more acres shall be reviewed for compliance with the post-construction storm water management requirements contained in the City's Storm Drainage Standards.

The post construction storm water requirements are found in Chapter 5 of the new Storm Drainage Standards. Chapter 5 has been included in Appendix "D" for further reference.

In order to comply with the City's MS4 Permit, all pre-construction site plans for sites disturbing one or more acres are being reviewed for compliance with the new Standards. The Planning Department is responsible for reviewing site plans for conformance to these requirements.

2.5.5.8.2 **BMP 22: Inspect post-construction storm water BMP's for correct installation.**

Goal: All post-construction storm water BMP's for sites disturbing one or more acres, or less than one acre if part of a larger common plan of development, shall be inspected to ensure they were constructed in accordance with the approved plans.

In order to comply with the City's MS4 Permit, all post-construction storm water BMP's for sites disturbing one or more acres are being inspected to ensure they are constructed in accordance with the approved plans. The Public Works Department is responsible for performing these inspections.

2.5.5.8.3 BMP 23: Require long-term operation and maintenance (O&M) plans for privately maintained post-construction storm water BMP's.

Goal: A legally binding and enforceable maintenance agreement shall be executed for all privately owned post-construction storm water BMP 's. The maintenance agreement shall be required as part of plan approval or the permitting process.

As was stated above in Section 2.5.5.6, when BMP ownership is vested in the City of Shannon Hills, long-term operation and maintenance shall be the responsibility of the City. However, when ownership is not vested in the City, the long-term operation and maintenance responsibility is vested with a responsible party by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval or the permitting process. The Public Works Department is responsible for ensuring that long-term maintenance agreements for privately owned BMP's have been signed.

2.5.6 *Performance Standards.* The City of Shannon Hills SWMP shall include pre-construction site plan review (for compliance with local requirements for post-construction management of storm water) of 100 percent of projects from construction activities that result in a land disturbance of greater than or equal to one acre to ensure that required controls are designed per requirements. These applicable sites shall be inspected to ensure that controls are installed per requirements. The program shall also ensure that long-term operation and maintenance (O&M) plans are developed and agreements in place for all applicable sites.

2.5.7 *Annual Reporting.* The City of Shannon Hills shall utilize the standard annual report form developed by ADEQ. The annual report shall document the following:

- Number of applicable sites in the jurisdiction requiring post-construction controls
- Number of pre-construction site plan reviews performed
- Number of inspections performed to ensure as built per requirements
- Compliance rates with City of Shannon Hills requirements
- Number of long-term O&M plans developed and agreements in place

2.5.8 *Low Impact Development (LID).* No readily identifiable impediments to low impact development (LID) were found in the City Code of Ordinances. LID is encouraged and the City of Shannon Hills may implement Site Design Credits in the future which allow developers to reduce or eliminate requirements for water quality in

exchange for implementation of certain non-structural site design elements. Site Design Credits are discussed in more detail in Section 2.5.5.3.

2.6 Pollution Prevention/Good Housekeeping for Municipal Operations

2.6.1 The City of Shannon Hills has developed and implemented an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

2.6.2 Using training materials that are available from EPA, ADEQ, other organizations or developed in-house, the City of Shannon Hills pollution prevention/good housekeeping program includes employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance; and

2.6.3 *Decision Process.* The City of Shannon Hills has documented the decision process for the development of the pollution prevention/good housekeeping program for municipal operations. The rationale statement has addressed the overall pollution prevention/good housekeeping program and the individual BMP's, measurable goals, and responsible persons for the program. The rationale statement includes the following:

2.6.3.1 The City of Shannon Hills has implemented the operation and maintenance program, as described in Section 2.6.3.3 below, to prevent or reduce pollutant runoff from municipal operations. Departments that are impacted by this program include the following:

- Engineering
- Operations
- Parks & Recreation
- Sanitation
- Utility
- Transit

The City operations that are impacted by this program include:

- Vehicle and equipment fueling, cleaning, and repair
- Outdoor storage of raw materials
- Waste handling and disposal
- Building and grounds maintenance
- Parking/storage area maintenance
- Road and street maintenance
- Landscape maintenance
- Drainage system maintenance
- Water and sewer utility maintenance

2.6.3.2 An employee training program designed to reduce and prevent stormwater pollution has been in place since the previous MS4 permit. As part of this program training materials are distributed semi-annually. This program will be continued for all eligible employees and shall cover such topics as park and open space maintenance, new construction and land disturbances, fleet and building maintenance, and stormwater system maintenance. Other areas of concern include educating employees about illegal dumping and recognizing and reporting illicit discharges. The materials that were utilized previously were developed by ADEQ and EPA, as well as a few in house materials. Fact sheets and training materials from ADEQ and EPA will continue to be used under the new permit.

2.6.3.3 The City's employee training program specifically addresses the following areas:

2.6.3.3.1 Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the MS4. See BMP's 24, 25, and 26 in Section 2.6.3.5 for more information.

2.6.3.3.2 Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas. See BMP's 27, 28, and 29 in Section 2.6.3.5 for more information.

Additionally, all municipally-owned facilities were evaluated under the previous permit to ensure that industrial storm water permit coverage, if needed, was obtained. Industrial storm water permits for qualifying sites will be maintained under the new permit.

Facilities that did not require an industrial storm water permit, but performed maintenance activities on mechanical equipment, had fueling stations, were involved in waste storage, transfer, or recycling, had material stockpiles, or stored fertilizers or pesticides were required under the previous permit to develop a SWPPP and perform annual inspections. Annual inspections of these sites will continue under the new permit.

2.6.3.3.3 Procedures for the proper disposal of waste removed from the MS4 and the municipal operations, including dredge spoil, accumulated sediments, floatables, and other debris. See BMP 30 in Section 2.6.3.5 for more information.

2.6.3.3.4 Procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. See BMP 31 for more information.

2.6.3.4 The Public Works Department is responsible for the overall management and implementation of the pollution prevention/good housekeeping program. However, other departments, as listed in Section 2.6.3.5 are responsible for implementation of specific BMP's or portions thereof.

2.6.3.5 The success of the pollution prevention/good housekeeping minimum control measure will be evaluated according to the number of measurable goals that are successfully met each reporting year for their associated BMP's.

Measurable goals have been selected for the BMP's that will allow the City to reduce pollutants caused by municipal operations without creating the need for additional equipment and personnel. The individual BMP's and their associated measurable goals are listed below:

2.6.3.5.1 **BMP 24: Inspection and sweeping of streets.**

Goal: Streets with curb and gutter will continue to be swept an average of 6 times annually under the new permit.

Pollutants, such as sediment, debris, trash, road salt, and trace metals, can be reduced by street sweeping. Street sweeping can also control dust, improve the aesthetics of roadways, and decrease the accumulation of pollutants in catch basins (12).

The measurable goal for this BMP has been updated to clarify that only streets with curb and gutter are swept. Streets without curb and gutter are not swept because the brushes pull dirt and debris from the side of the street and can actually increase the amount of pollutants on the roadway. The City will continue to sweep streets at least 6 times annually under the new permit. The Operations Department is responsible for overseeing the City's street sweeping program.

BMP 25: Perform preventative maintenance on storm sewer system.

2.6.3.5.2

Goal: Drain crews shall continue to perform at least 80 hours per month preventative maintenance on the City storm sewer system under the new permit.

As a storm water best management practice (BMP), preventive maintenance should be used to monitor systems constructed to control storm water. These systems should be inspected to uncover cracks, leaks, and other conditions that could cause failures of storm water mitigation structures and equipment, which, in turn, could result in discharges of pollutants to surface waters either by direct overland flow or through storm drainage systems. A preventive maintenance program can prevent failures through adjustment, repair, or replacement of structures before a major failure occurs (18). City crews currently perform maintenance on the municipal storm sewer system. While some of this work is complaint driven and occurs during heavy rainfall events, the majority of the maintenance is conducted during dry weather and can be classified as preventative. City crews shall continue performing at least 80 hours of preventative maintenance per month under the new permit. The Operations Department is responsible for maintenance on the storm drain system.

2.6.3.5.3 **BMP 26: Schedule patching, resurfacing, and crack sealing for dry weather.**

Goal: City staff shall continue scheduling patching, resurfacing, and crack sealing only during dry weather under the new permit.

Proper planning for road and bridge resurfacing projects is a simple but effective pollution control method. Several techniques can be used to control the side-effects of road maintenance procedures. Scheduling paving operations only during dry weather is one of those techniques (15). City staff will continue to schedule all patching, resurfacing, and crack sealing operations only during dry weather under the new permit. The Public Works Department is responsible for roadway maintenance and resurfacing.

2.6.3.5.4 **BMP 27: Distribute training materials on storm water protection to City employees.**

Goal: Under the new permit, materials will continue to be distributed semi annually to all eligible employees.

This BMP was part of the previous MS4 permit. Pollutants generated by municipal operations accumulate on ground surfaces where they are transported by runoff to receiving waters. Educating municipal employees through a training program about the impacts of their work on storm water quality can help prevent pollution from municipal operations (11). As part of this program, employee training materials will be distributed that have been developed by ADEQ, EPA, and in house. The subject matter of the materials shall be related to reducing or eliminating the discharge of pollutants from streets, municipal parking lots, maintenance and storage yards, waste transfer stations, fertilizers, pesticides, new construction and land disturbances, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations. Employees shall also receive training on illegal dumping and recognizing and reporting illicit discharges. The City will continue to distribute training materials semi-annually to all eligible employees under the new permit. The Public works department is responsible for producing the employee training materials and distributing them to the departments. The individual departments are responsible for disseminating the information to their employees.

2.6.3.5.5 **BMP 28: Designate vehicle washing and maintenance areas for City fleet.**

Goal: Designated vehicle washing and maintenance areas will continue to be used under the new permit.

Used automobile fluids are toxic, even in small quantities, because of metal contaminants and organic petroleum based constituents. They must be properly managed to prevent land, air, and water pollution (2). Designating washing and maintenance areas for city vehicles allows for the proper containment of spills and leaks associated with those activities.

The individual departments are responsible for the activities at their own facilities. Vehicle wash water will not be discharged to the city storm system.

2.6.3.5.6

BMP 29: Deicing salts and salt/sand stockpiles shall be stored outside of the 100-year floodplain and in containment areas that prevent discharge to the MS4.

Goal: Under the new permit, the City shall continue to store deicing salts and salt/sand stockpiles outside of the floodplain and in containment areas that prevent discharge to the MS4.

The storage of deicing materials can lead to water quality problems for surrounding areas. Properly storing deicing salts prevents the salt from lumping together, which makes it easier to load and apply. In addition, covering salt storage piles reduces salt loss from stormwater runoff and potential contamination to streams, rivers, and other water bodies. Salt storage piles should also be located outside the 100-year floodplain for further protection against surface water pollution (14). The City will store its deicing salts in an enclosed shelter, located outside of the 100-year floodplain under the new permit.

2.6.3.5.7

BMP 30: Trash, debris, and other solid wastes removed from storm sewers shall be disposed of at sanitary landfill.

Goal: Under the new permit, all trash, debris, and other solid wastes removed from the storm sewer system shall continue to be disposed of at the sanitary landfill.

Storm sewer systems need to be cleaned regularly. Routine cleaning reduces the amount of pollutants, trash, and debris in both the storm sewer system and the receiving waters. Clogged inlets can cause storm sewers to overflow, leading to

increased erosion. Cleaning increases dissolved oxygen, reduces bacteria levels, and supports in-stream habitat (16). When clogged inlets are encountered, the debris causing the blockage many times will have to be removed by hand. This debris must then be disposed of in a proper manner. The City will continue to dispose of all trash, debris, and other solid wastes removed from the storm sewer system at the sanitary landfill under the permit. The Public Works Department is responsible for cleaning out the storm drainage system and disposing of the materials removed.

2.6.3.5.8 **BMP 31: New flood management projects shall be assessed for impacts on water quality.**

Goal: Under the new permit, the City will continue to assess new flood management projects for water quality impacts.

Procedures are currently in place within the Public Works Department for the review of flood management projects. Typically, a consulting engineer will be selected to design the project. Then a scope of services will be agreed upon, an engineering services fee will be negotiated and approved, and an engineering services contract will be executed. Dependent upon the complexity of the project, design will proceed in either two or three phases: preliminary and final design; or conceptual, preliminary, and final design. Submittals are required for each design phase.

2.6.4 *Performance Standards.* The City of Shannon Hills pollution prevention/good housekeeping program includes semi-annual employee training for all eligible employees. An eligible employee is defined as a new or veteran employee whose day-to-day work activities have the potential to impact storm water quality. Under the previous permit, the City evaluated all current municipally-owned facilities to ensure that industrial general storm water permit coverage (ARROOOOOO), if needed, was obtained. Annual inspections are required for all City facilities that do not require industrial storm water permit coverage and that are performing maintenance activities on mechanical equipment, have fueling stations, are involved in waste storage, transfer or recycling, have material stockpiles, and/or are storing fertilizers or pesticides.

2.6.5 *Annual Reporting.* The City of Shannon Hills shall utilize the standard annual report form developed by ADEQ. The annual reports shall document the following:

- Summary of employee training program(s) implemented with number of employees that attended
- Summary of activities and procedures implemented for the operation and maintenance program

3 SHARING RESPONSIBILITY

Implementation of one or more of the minimum measures may be shared with another entity, or the entity may fully take over the measure. Currently, the City of Shannon Hills does not share responsibility for implementation of any of the control measures with another entity. However, in the future, the City may rely on another entity only if:

- 3.1 The other entity, in fact, implements all or part of the control measure;
- 3.2 The particular control measure, or component of that measure, is at least as stringent as the corresponding permit requirement; and
- 3.3 The other entity agrees to implement the control measure on the City's behalf. There shall be written acceptance of this obligation. This obligation shall be maintained as part of their SWMP. If the other entity agrees to report on the minimum measure, the City shall supply the other entity with the reporting requirements contained in Part 4.3 of NPDES Permit No. ARR040000.

4. REVIEWING AND UPDATING STORMWATER MANAGEMENT PROGRAMS

- 4.1 SWMP Review: The City of Shannon Hills shall do an annual review of the SWMP in conjunction with preparation of the annual report required under Part 4.3 of NPDES Permit No. ARR040000.
- 4.2 SWMP Update: The City of Shannon Hills shall change the SWMP during the life of the permit in accordance with the following procedures:
 - 4.2.1 Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP may be made at any time upon written notification to ADEQ. This includes any changes that affect the signatory authority of the permit. These changes will be considered a minor modification and are not subject to the public notice requirements in Part 2.4 of NPDES Permit No. ARR040000. This does not include changes adding a new BMP based on a newly applicable condition, such as BMPs required by Part 3.4.5 of NPDES Permit No. ARR040000 due to a newly impaired waterbody designation. Such changes will be considered a major modification to the SWMP and are required to undergo the process under Section 4.2.2.
 - 4.2.2 Changes replacing an ineffective or infeasible BMP specifically identified in the SWMP with an alternate BMP may be requested at any time. These changes may be considered a major modification to the SWMP and be subject to the public notice process outlined in Part 2.4 of NPDES Permit No. ARR040000. ADEQ will review and provide a written decision within sixty (60) days of the request. ADEQ may approve with additional specific requirements. The revised BMPs shall be implemented immediately upon approval or within the timeframe specified by the approval. If the request is denied, ADEQ will send a written response giving the reason for the decision. The modification requests shall include the following:
 - 4.2.2.1 An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),
 - 4.2.2.2 Expectations on the effectiveness of the replacement BMP, and
 - 4.2.2.3 An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.
 - 4.2.3 Changes applicable to Sections 1.1.3 and 1.1.4 are considered minor modifications and do not require any notification to ADEQ.
 - 4.2.4 Change requests shall be made in writing and signed in accordance with Part 5.7 of NPDES Permit No. ARR040000.

- 4.3 SWMP Updates Required by ADEQ: It is understood that ADEQ may require changes to the SWMP as needed to:
 - 4.3.1 Address impacts on receiving water quality caused, or contributed to, by discharges from the City;
 - 4.3.2 Include more stringent requirements necessary to comply with new Federal statutory or regulatory requirements; or
 - 4.3.3 Include such other conditions deemed necessary by ADEQ to comply with the goals of the Clean Water Act.
 - 4.3.4 It is understood that any changes requested by ADEQ will be made in writing, set forth the time schedule to develop the changes, offer the opportunity to propose alternative program changes to meet the objective of the requested modification, and discuss whether the changes are subject to the public notification requirements in Part 2.4 of NPDES Permit No. ARR040000.
- 4.4 Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation: The City of Shannon Hills shall implement the SWMP on all new areas added to the City (or areas where the City becomes responsible for implementation of stormwater quality controls) as expeditiously as practicable, but not later than one year from addition of new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.
 - 4.4.1 Within 30 days of transfer of ownership, operational authority, or responsibility for SWMP implementation, the City of Shannon Hills shall have a plan for implementing a SWMP on all affected areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP shall be included in the annual report. ADEQ shall be notified within 30 days of any change of ownership, operational authority or responsibility for SWMP implementation.

4.5 DISCHARGES TO IMPAIRED WATERS WITH AND WITHOUT APPROVED TMDLS, AS WELL AS WATERS THAT ARE ATTAINING WATER QUALITY STANDARDS, BUT HAVE AN APPROVED TMDL

4.5.1 Discharges to Waters with an Approved TMDL

The City of Shannon Hills discharges to a segment of Otter Creek which does not appear on the 2018 Impaired Water bodies List (303(d) List) for turbidity.

Even though no WLA has been established for Otter Creek, the City will continue to control the discharge of the pollutants of concern through the BMP's the City already implements.

4.5.2 Discharges Directly to Water Quality Impaired Waters or Waters with an approved TMDL (see Part 1.3.4 of NPDES Permit No. ARR04000)

4.5.2.1 The City of Shannon Hills does not discharge to a receiving stream that appears on the 2018 303(d) list of impaired waters for a nutrient constituent (e.g., nitrogen or phosphorus), therefore, this section is RESERVED.

4.5.2.2 The City of Shannon Hills does not discharge to a receiving stream that appears on the 2018 303(d) list of impaired waters for bacteria, therefore, this section is RESERVED.

4.5.2.3 The City of Shannon Hills discharges to a segment of Otter Creek. This segment of Otter Creek does not appear on the 2018 Impaired Water Bodies List (303(d) List) for turbidity. Therefore, this section is RESERVED.

5 MONITORING

The City of Shannon Hills discharges to a segment of Otter Creek which does not appear on the 2018 Impaired Water bodies List (303(d) List) for any pollutants. Therefore, since no WLA has been assigned, the City of Shannon Hills proposes no sampling plan at this time.

6 REFERNCES

ADEQ and the City of Fort Smith, AR Stormwater Mangement Manual; City of Fort Smith Engineering Department 2019 June 25