ARR040000 Recertification Notice of Intent for Regulated Small Municipal Separate Storm Sewer Systems (MS4s) General Permit

version 1.16

(Submission #: HQ2-TA97-YKQJG, version 1)

Details

AFIN	88-00831
Submission ID	HQ2-TA97-YKQJG
Submission Reason	Renewal

Form Input

Permit Information

Recertification Instruction

Please review all fields carefully for typos or inaccurate information. If the information in the corresponding field is incorrect, please update the corresponding field with the correct information by typing over the existing information.

If the Permittee (Legal Name) changes, you will need to also submit a permit transfer form.

The update SWMP must be submitted in accordance with the permit.

Permittee (Legal Name)

The permittee means any person (an individual, association, partnership, corporation, municipality, state, or federal agency) who has the primary management and ultimate decision-making responsibility over the operation of a facility or activity.

Permit No.
ARR040008

AFIN
88-00831

Permittee (Legal Name)
City of Bryant

Site Contact Person

Contact Person Information

First Name	Last Name
Chris	*Treat*

Title
Mayor

Phone Type	Number	Extension
Business	5019430442	0442

Email
ctreat@cityofbryant.com

Urbanized/Core Areas
Little Rock

Receiving Stream
Crooked Creek to Fourche Creek to Arkansas River, Hurricane Creek to Saline River to Ouachita River

Is this MS4 identified on the list of the EPA approved Total Maximum Daily Loads (TMDL)?
no

From our database, the Responsible Official are listed in the following

Responsible Official First Name
Chris

Responsible Official Last Name
Treat

Responsible Official Title
Mayor

Did the Responsible Official Change?
Yes

Responsible Official

First Name	Last Name
Chris	*Treat*

Title
Mayor

Phone Type	Number	Extension
Business	5019430442	0442

Please provide the Responsible Official Email Address
ctreat@cityofbryant.com

From our database, the Cognizant Official are listed in the following

Cognizant Official First Name
Ben

Cognizant Official Last Name
Wilson

Cognizant Official Title
Stormwater Mgr.

Did the Cognizant Official Change?
No

Please provide the Cognizant Official Email Address
bwilson@cityofbryant.com

Mailing Address
210 SW 3rd Street
Bryant, AR 72022

Is the invoice address the same as the mailing address?
Yes

Attach Updated SWMP and Updated Storm Sewer System Map
Bryant SWMP 4-9-24.pdf - 04/11/2024 01:46 PM
Comment
NONE PROVIDED

ENVIRONMENTAL QUALITY

Certification of ePortal Submission

This form is to be used to certify electronic ePortal submissions. Please check with the appropriate section for who has the authority to sign this form. A hardcopy of this form with original signature must be sent to DEQ, 5301 Northshore Drive, North Little Rock, AR 72118. Please do **not** send a hardcopy of the ePortal submission with this form. **All fields are required.**

1. Section to which the ePortal Submission was Submitted:	General NPDES Permits
2. Form Name:	ARR040000 Recertification Notice of Intent for Regulated Small Municipal Separate Storm Sewer Systems (MS4's) General Permit
3. Arkansas DEQ Facility Identification Number (AFIN), if available:	88-00831
4. Facility Name:	City of Bryant
5. Facility Physical Address:	210 SW 3rd Street Bryant AR 72022

I certify under penalty of law that the ePortal submission with Submission ID# HQ2-TA97-YKQJG and revision # 1 which was submitted electronically on 4/11/2024 2:29:19 PM 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.

Chris Treat	Mayor
typed/printed name of signatory authority	title
	4/15/24
signature of signatory authority	date

City of Bryant

Storm Water Management Program

TABLE OF CONTENTS

City of Bryant
Storm Water Management Program
INTRODUCTION

Program Overview

Bryant Storm Water Management Program (SWMP) specifies how Bryant will meet the requirements of the MS4 permit ARR040000 as regulated through Arkansas Department of Environmental Quality (ADEQ). This program is designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements and the Clean Water Act. Bryant is a small MS4 (Municipal Separate Storm Sewer System) and the system is composed of any conduit (ditch, river, stream, creek, culvert, pipe, gutter, channel, basin, pond, roadway, etc.) that transfers storm water/runoff through the city. This SWMP will explain the tools, methods, reasoning and measures used to reduce pollution in the MS4 in accordance with the Six Minimum Control Measures as directed in ADEQ permit ARR040000.

The Six Minimum Control Measures:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Controls
5. Post Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The Stormwater Manager shall annually review the SWMP in conjunction with preparation of the annual report. The operator may change the SWMP during the life of the permit according to the procedures detailed in Arkansas General Permit No. ARR040000.

What are Best Management Practices (BMP's)?

Best Management Practices (BMPs) are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices designed to prevent or reduce pollution of Waters of The State.

City of Bryant

Storm Water Management Program
Minimum Control Measure
Public Education and Outreach

An informed and knowledgeable community is crucial to the success of a Storm Water Management Program since it helps to ensure the following:

- Greater support for the program as the public gains a greater understanding of the reason why it is necessary and important. Public support is particularly beneficial when the City attempts to institute new funding initiatives for the program or seeks volunteers to help implement the program.
- Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

The City will implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution. Bryant will determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Evaluating the Success of the Outreach and Education Program

We know that one Education method does not reach or relate to all population segments. Furthermore, the effectiveness of any one method is variable, and some researchers have developed multipliers (based on focus group studies) to apply to data to estimate effectiveness. The truth is no method comes with a guarantee or assurance of effectiveness. For these reasons, our Outreach platform is wide and varied in order to create multiple opportunities for all market segments to receive the message of Stormwater Pollution Prevention.

One source of method evaluation is public feedback from residential, commercial and construction segments. These could come from public meetings, emails, phone calls or face-to-face encounters. The most positive feedback is for the turtle mascot, Drain Smart, Good Housekeeping Inspections, and the coloring/activity workbook. The others methods do not get much feedback, good or bad, but are successful in getting the message out into the public domain in various formats.

Another source of evaluation is based on the number of people reached and the estimated percentage of effectiveness. For the newsletter, the number of people reached is based on the customer count of Water Billing. For pamphlet distribution, it's based on the number of houses contacted. For Billboards and Drain Smart, it's based on traffic counts.

For Good Housekeeping Inspections & Business License Renewal Letters, it's based on number of businesses contacted. Other counts from events and meetings come from estimated crowd counts and sign-in sheets.

For Outreach methods that use traffic counts and involve Ad-type messages, we use the 50 percent effectiveness multiplier based on a study by The Small Biz Genius report "The 45 Most Important Advertising Statistics."

The Decision Process and Rationale for our Public Education Program

The goal is to reach all segments of the population in order to have an improved, overall impact on the quality of Stormwater, using a multitude of platforms and processes. One of the goals we are focused on is to increase avenues and methods to reach and educate children with the message of Stormwater Pollution Prevention and protection of waterways and storm drains throughout the city. The reason is to build a strong foundation of understanding and promote involvement toward improving water quality.

The target pollution sources are residential, construction/development, retail (brick and mortar), service industry, industrial, and municipal activities.

The Department in charge of this program is the Bryant Stormwater Department within Public Works. The Stormwater Manager has the main responsibility of managing the program with the assistance of two Stormwater positions within the Stormwater Department. The current Manager of Stormwater is Ben Wilson.

Next section will cover the Mechanisms used for Public Education and Outreach, along with associated target audiences, themes used, reason & the selection process for the mechanism.

Mechanisms/BMPs

City Newsletter - Monthly publication. Two page publication included in the water/sewer bill. Reaches all Bryant Water users. The segment is cross sectional as water usage involves the majority of citizens from varying backgrounds. An estimated 7,000 letters are sent out monthly with an estimated 2.5 people per household reached. Subjects include Stormwater Pollution Prevention Tips, Storm Drain Education, Vehicle Washing, Good Housekeeping, Illicit Discharge Phone Number, Septic system Maintenance, Erosion Control, Recycling, Building Yard Buffers, Watershed Knowledge, and Easement Maintenance. This is an effective tool. People do read the newsletter as evidenced by the feedback received. The newsletter allows for involvement with pro Stormwater organizations as well as we print newsletter pieces related to organizations. Members include Recycle Saline, Goodwill, and Keep Bryant Beautiful.

Electronic Billboard

Advertising space purchased for three months in 2019 from Custom Advertising. Electronic billboard located at 23478, I-30 on Stagecoach Road in Bryant, AR. Message features Stormwater ED, message is Nothing in the Drain But the Rain and our contact

information including phone number and website address. Reach is based on traffic count which is 10,000 cars daily.

Business Permit Renewal Letter - Each year an insert is placed in with the business license renewal form and mailed to all businesses that operate in Bryant, both brick/mortar and service related businesses. This segment is targeted due to the impact they have on the exterior of the building including parking lot storm drains, dumpster area, and landscaping/yard. Good Housekeeping tips are provided and encouraged. An estimated 750 inserts are mailed with the license renewal. It is an effective tool coupled with the business license renewal process and positive feedback and implementation has been the result.

Good Housekeeping Inspections of Brick and Mortar - Field inspections are completed on an average of 300/year of brick and mortar retail establishments. Areas inspected include lawn, parking lot, storm drains, dumpster area and outside around the building. We are looking for trash, debris, floatables, material storage and actual dumpster inspections (drain plug and lid). Violations are reported to the Store Manager and compliance is normally met. It is an opportunity for education. We have had good results with compliance and this activity reduces pollution.

Stormwater ED Department Mascot - Stormwater ED is a turtle that helps spread the word of Nothing in the Drain but the Rain. We use a college-grade mascot suit and make public appearances at meetings and public events. ED is also featured in our coloring/activity sheets and he appears in cartoon form for pieces in the newsletter and the Stormwater web page. At events, ED hands out green, "Nothing in the Drain But Rain" bracelets and other giveaways including pens and lanyards. He has been a big hit with the kids and adults alike. He reaches hundreds of people since he is easy to see and the nature of the green turtle suit is a natural attraction for people. We normally hand out pamphlets as well from a home based booth.

Stormwater Education Giveaways - Includes pens, lanyards, bracelets with promotional messages of Stormwater including "Nothing in the Drain but the Rain". These are add ons that compliment public meetings and other events.

Stormwater Webpage - The Stormwater Webpage on the City of Bryant Website provides additional outreach to a segment of the public more inclined to be reached through technology more so than print ad such as the newsletter. The page includes Stormwater Prevention Methods, the Illicit Discharge tip line, and a different variety of training and informational videos directed at builders, contractors, residents, children and the general public. Video topics include general Stormwater Education, Pollution Prevention, Construction Site Runoff Controls and Drain Protection. We have a children's page on the Stormwater page as well which includes downloadable coloring sheets, comic strips of Stormwater ED, and educational videos geared to children. The Bryant

Stormwater Management Manual is posted on the Stormwater page as well for review and reference. The website is advertised at public and neighborhood meetings. As a result, there has been a surge in public use especially in the Report a Concern module. It has proved to be an invaluable source for connectivity to the public.

Coloring/Activity Books and Sheets - These are distributed at an average rate of 800 annually to the Bryant Elementary School students. The target audience is elementary age students. The booklets provide Stormwater pollution prevention tips and bring awareness to storm drains and activities that ensure a cleaner environment. We have had good results with this method and it helps build a good foundation for future generations. The Stormwater Department produces some of these pages and we acquired additional activity booklets through our affiliation with Drain Smart. The Bryant High School Art students also design and create coloring/activity sheets for the city.

Storm Drain Decals - We have attached and continue to attach drain decals on public storm drains in new residential developments and commercial areas. These decals are printed with symbols and messages that bring awareness to the fact that these drains flow to Waters of the State and not to a water treatment plant. Our source is DAS Manufacturing. This is an ongoing exercise as new development is continually taking place. We added this to the Outreach toolbox to access people who work, exercise and live near storm drains. The average rate of decals attached is 170/year.

Neighborhood Meetings - Routinely the City has chosen to take public comment and feedback from residents in the neighborhoods where they live. This process allows for more feedback to problems that are specific to various neighborhoods. Stormwater is an important issue as it relates to pollution prevention and flood mitigation so the Stormwater Department is present at these meetings to educate and gather information for potential Stormwater Improvement Projects. The neighborhoods are normally established Subdivisions with POAs which provides an excellent venue for Public Education and Outreach. The average yearly rate of people reached is 200, dependant on the number of neighborhoods scheduled or the need for such a meeting.

Door Hangers and Pamphlets - These are distributed door to door, at public meetings and other events as handouts. The purpose is to pinpoint distribution to specific groups or to areas that may have shown an increase in pollution such as grass clipping being placed in storm drains.

Pamphlets for BONAfide - BONAfide is an organization that helps to build neighborhood groups for the purpose of creating mutual benefit. It distributes how-to pamphlets that instructs residents on how to setup neighborhood groups for the purpose of crime watch and organizing cleanup events of rivers, ditches, streets and other projects that benefit the city and neighborhoods. It was created by The Stormwater and Planning Departments. Pamphlets are made available at public meetings and other events.

Drain Smart - We are partnered with the Audubon Society of Arkansas in the Drain Smart Program. We contribute time and money into the program and are on the annual list to receive artwork on selected drain inlets in Bryant. The program adds murals on drains that help educate and bring awareness to storm drains, where they flow and how they impact the environment. The target audience is the general public and those who shop and walk in the areas chosen for artwork.

Annual Community Events - These annual events include Fall Fest, First Responder Luncheon, Drug Take Back, Taste of Bryant, Bark in the Park, and The Rubber Duck Derby. At these events Public Works rents booth space to connect with the community. Stormwater uses these events to distribute pamphlets, pens, coloring sheets and wrist bracelets with the message Nothing in the Drain but the Rain. We also feature Stormwater ED to reach people. He is normally a big attraction for all the kids and adults alike.

City of Bryant

Storm Water Management Program

Minimum Control Measure

Public Involvement/Participation

The Decision Process and Rationale for Public Involvement/Participation

The Stormwater Department developed working relationships with the organizations that are involved in activities and goals that have a positive impact on environmental issues. Stormwater promotes cleanup events through The City Website and the monthly newsletter to bolster involvement. We also participate in these events.

The organizations we promote and are involved with include Keep Bryant Beautiful, Goodwill Industries, Mayor's Youth Council, Adopt-a-Street, Drain Smart, and Recycle Saline. These organization do cleanup events, floatables removal, street right-of-way cleanups, recycling events, and drain murals. We partnered with these groups to focus on our related goals.

Organizational Affiliation and Public Involvement

Goodwill Industries in conjunction with Recycle Saline are responsible for recycle events that keep materials out of dump sites and landfills. Recycle Saline also provides proper depository option for hazardous waste material as well as landscape/yard debris. This is key in keeping yard debris out of ditches and waterways providing environmental health and flood mitigation. Stormwater has toured the Goodwill Operations and worked with them and Recycle Saline to advertise and promote these events. We also attend training with them and work together to increase involvement within the community. Adopt-a-Street is a City managed program that provides community groups, organizations, families and individuals a platform to be involved in their community. Keep Bryant Beautiful which Bryant actively supports also works in this area of community cleanup projects. Drain Smart through Audubon of Arkansas is an organization that Bryant joined in 2017.

Target Audiences

Some of the groups targeted for involvement include Boy Scouts of America, churches, local businesses and families through the Adopt-A-Street Program. Through our membership and participation in Drain Smart of Audubon of Arkansas, a wide cross section of people have been included due to the location of the drains painted and the artists involvement. Three of the six drains that received Drain Smart messages were located in the original part of Bryant which has Hispanic businesses. The foot traffic in this area is also composed of students from varied ethnicities and socioeconomic backgrounds. Two of the six drain murals are located on the Bryant High School campus with a cross sectional reach of the message "Drains to Waterways - Protect the Environment." The artists for the two drains on the High School campus were composed of student groups.

Youth from varied ethnicities and socioeconomic backgrounds are the focus group for the coloring/activity workbook involvement. The books are distributed by the SRO Officers in the elementary schools of Bryant.

Commercial and Industrial businesses are also targeted through our initiatives of Good Housekeeping Inspections and Annual Business License Renewal Letter campaign. These initiatives teach & promote brick and mortar business owners/staff to become actively involved in Good Housekeeping, drain protection, and dumpster repair/maintenance by showing them the areas that need to be cleaned and kept in good service.

Responsible Party

The person responsible for the overall management of Bryant's Public Involvement/Participation Program is the Stormwater Manager.

Measurable Goals and Success

The method in which Bryant will evaluate the success of the individual initiatives will involve documenting and measuring feedback, participation and results. Feedback will come from council meetings - public comments portion, council members, businesses

and the public via our website Report A Concern. For the coloring book participation, the goal is to reach a younger audience. Feedback from the students and teachers are noted by the SRO officer who distributes the activity booklets then relayed to Stormwater.

Participation will be measured by the number of volunteers and groups who become involved in the different programs and initiatives. For example, The Call for Artists initiative for Drain Smart had a more than adequate number of volunteers. Also this program enjoyed a large public turnout for the event known as "Meet the Artists" where people come to see the artwork and talk to the artists.

Results will be noted and measured for each initiative in the Bryant work management system iWorq. Results will be tallied and included in the annual report to ADEQ. For example, in the program Adopt-A-Street, those roadways chosen will be noted as to how well they are cleaned and maintained throughout the year.

Public Involvement in Development of Program and Events Promotion

Events are announced ahead of schedule in the City monthly newsletter and on the City Website in "special announcement" formatting. Events are also announced for public participation with door-to-door canvassing of neighborhoods and businesses in which push cards or pamphlets are distributed. Canvassing will also involve live dialogue with citizens for both feedback and training opportunities. Finally, involvement with events is promoted with custom street signage in areas where meetings or events will take place. Invitation for public comment/feedback on Stormwater is also scheduled at council meetings.

Public Involvement Activities and Events

- **Drain Smart** - Bryant became a supporting member of this organization in 2017, attending meetings, offering assistance, financial support, and input in the facilitation of the program. Six drains were selected in 2018 in Bryant for artwork to be completed in 2019. Public involvement came from Bryant High School and Art Teacher Brianna Peterson. Students will be involved in designing and painting murals on storm drains on campus and in nearby public areas in The Heart of Original Bryant. This area has high foot and vehicle travel of people from all age groups and socioeconomic backgrounds. The general Call For Artists which occurs annually, also provides a chance for a wide diversity of people to become involved. The goal of this program is to get the youth and other would be artists involved in this program to bring awareness to "how storm drains function" and "how they impacts waterways", including the ecosystem and wildlife that live in them.

- **Adopt-a-Street** - Is a Public Works Street Department program that allows community organizations, churches, families, individuals, and businesses to adopt a stretch of roadway in order to keep the right of ways free of litter and debris. It

is a great way to get the public involved while keeping floatables out of the waterways. Areas that are adopted receive signage along the route which displays the name of the group or organization. It is a way to build involvement, pride and ownership in the community. It targets pollution sources such as floatables, trash and debris in street right of ways and promotes Good Housekeeping. Membership drives are promoted annually on the City Website and in the City Newsletter. Groups such as The Boy Scouts of America and Keep Bryant Beautiful are two examples of organizations that are involved. We currently have 190 people signed up in the program. It is an effective community involvement mechanism.

- **Bryant Stormwater Utility** - Established in 2016 is a mechanism for public involvement and support of the Stormwater Program. The purpose of the measure was to provide financial support of the Stormwater Program and Stormwater Improvement Projects affecting Bryant overall. Since the installment of the Utility, people and neighborhoods have become more involved with Stormwater as it relates to their individual areas. They know they are part of the solution.

- **Coloring/Activity Sheets and Booklets** - The Stormwater Department has developed coloring/activity sheets featuring Stormwater ED aimed at elementary aged children. The theme in the sheets are drain awareness/protection, Stormwater definition, education of activities around the home that protect waterways, and pollutant identification. We also have tailored the coloring activity booklet, created by Drain Smart and Audubon of Arkansas, to represent Bryant and our Mascot ED. It is also aimed at children and follows the adventures of wildlife that live in and around waterways that sustain them. Through a continuing storyline involving the animals, the booklet educates children on the methods and importance of Stormwater Pollution Prevention. We will distribute these through School Teachers and officials for continuing education. The source of pollution will involve waterway and storm drain protection from floatables and other pollutants. One result of this education is the child learns about the environment and can be a positive influence for their family.

- **Mobile Neighborhood Meetings** - City Departments coordinate and travel to meeting locations in public areas near or in neighborhoods to facilitate more community involvement in City operations. The Stormwater Department has always been one of the Departments included in these meetings as it is an important issue with most of the citizens. Other Departments include Fire, Police and Public Works. People interact with Department Management, Council and The Mayor to provide feedback. This platform also provides an opportunity for education of stormwater issues such as waterway protection/maintenance, individual responsibilities, flood mitigation, and stormwater projects. This platform was chosen for the increase in public participation it allows. On average

there are four events annually. It has been effective in building community and participation.

- **Good Housekeeping Inspections** - As mentioned in the Outreach and Education portion, these inspections help to educate employees and owners at brick and mortar locations in Bryant. The portion that addresses "Involvement" is the inspection findings summary that The Stormwater Inspector performs with management of the buildings. We encourage management to set up Good Housekeeping schedules with their employees to routinely check their dumpster area, lawn, parking lot and storm drains. Store Managers are directed to become more involved with their lawn care contractors to make sure grass clippings and other harmful materials are not placed or blown into the storm drains. This is an effective tool to control floatables, hazardous material storage, trash and waste.

- **Business License Renewal Letter Campaign** - As mentioned in the Outreach and Education portion, the letter encourages business to set up a maintenance schedule to keep outside areas clean and free of floatables, trash and hazardous materials. This is followed up with Good Housekeeping inspections as mentioned. A one page insert is mailed out with the business license renewal notices to businesses that operate in Bryant, both retail and service operations. We have gotten positive feedback and cooperation from all the businesses. Business License Renewal Notices come from the Office of Code Enforcement. This attaches a higher level of importance to the communication.

- **Great Bryant Cleanup from Keep Bryant Beautiful** - The City is partnered with and supports this organization and its annual Great Bryant Cleanup Event through public notification in both the City Newsletter and the City Website. The Stormwater Department also participates in the event with cleanups of areas throughout Bryant in both right of ways and creeks. The Organization and the event provides a means for citizens to become involved as well either through a one time participation or by joining Keep Bryant Beautiful. The Stormwater Department also tries to bolster membership in the organization through promotional pieces placed in the monthly newsletter.

- **Recycling Events from Recycle Saline & Goodwill Industries** - As mentioned in the Outreach and Education portion, we support and promote these organizations and their events. The reason is that it provides a great platform for public involvement. People from all segments of the community take part in the protection of the environment by bringing bicycles, computer equipment, paper, metals, tires, furniture, clothes, shoes, and even hazardous materials to these events and directly to the Goodwill location that we have in Bryant. Their involvement keeps the items out of landfills.

- **Drug Take Back Initiatives through the Bryant Police Department** - This event is held twice per year and promotes people to get involved by bringing their outdated and unused prescription drugs so that they may be disposed of properly. This action also has a positive benefit of protecting the environment as the drugs are kept out of landfills where they can make their way into waterways. The Stormwater Department promotes these events by placing informative information in the City Newsletter and on the City Website. We also participate in these events with Stormwater ED accompanied with handouts of Stormwater bracelets and pamphlets. The presence of The Stormwater Department at these events, accompanied by the mascot, brings more awareness to these events and promotes participation.

City of Bryant

Storm Water Management Program

Minimum Control Measure

Illicit Discharge Detection and Elimination

Decision Process and Rationale of the Illicit Discharge Detection and Elimination

To use our completed/active Storm Sewer Map, Work Order/Inspection software (iWorq), enforcement mechanisms/ordinances, Outreach Education mechanisms, and

procedures to inspect, detect, prevent and eliminate illicit discharges in the City. The Stormwater Manager, Ben Wilson, is the person responsible for the program.

Responsible Party for Illicit Discharge Detection & Elimination Program

The person responsible for the overall management and implementation of the Illicit Discharge Detection & Elimination Program is the person who holds the position of Stormwater Manager in the Stormwater Department of Public Works for The City of Bryant, Arkansas.

Evaluating the Success of the Program

The processes and measurable goals selected to help manage this program were derived through the actions of building the MS4 program per State and Federal Requirements. The selection process of goals and practices was further enhanced through ADEQ audit meetings, communications and site inspections. The success of this program is based on: maintaining accurate mapping of the city storm sewer system and its outfalls; reviewing and updating city ordinances and regulations which facilitates our duties of environmental protection; performing inspections in a systematic, thorough manner with proper investigation and notation; and performing enforcement actions including citations for any discharges detected.

How the Storm Sewer and Outfall Maps Were Developed

Bryant Stormwater hired FTN Engineering to make the initial map grid as well as the separate Outfall Map. Each grid represents a ground distance of 2,400 ft. (width) by 1,600 ft. (length), which allowed for ease of mapping and feature identification on the ground. The grid labeling system was designed to be expandable to allow for city growth and additions to our inspection/detection process. An example of the grid labeling system: (from northern extent of map) top line starts - AA15, AA16, etc.; (drop down south to next grid line) AB14, AB15, AB16.....etc. (going from West to East till map leaves City Limits, then drop South and go back to the West side of City Limits); AC11. This continues until you reach AV21 at the SE corner of overall map. The alphanumeric system started in the mid-range and overlapped the City Limits. This allows for expansion and labeling of the outlying areas if they are annexed in the future.

From these maps, The Stormwater Department did field inspections of each grid, marking all water flow and feature identifications with lines and symbols. The work was verified, then transferred to an electronic format after additional verification and edits. The work

was then put into The City GIS for daily use and reference by City Staff and the Public through the City Website. As mapping was being field verified, Outfalls were identified, including additional Outfalls beyond the original list that FTN had identified. Outfalls were labeled on each grid map as an extension of the map label. For example, grid AG23 has two outfalls and they are labeled and identified on the grid map as AG23-1 & AG23-2.

Each Outfall was given a Stormwater Permit number and was added into iWorq, Work Management System, under its label (ie-AG23-2). From this system, inspections are scheduled, completed and documented with associated photos and notes as required.

Mechanism Used to Prohibit Illicit Discharges & Plan to Ensure Enforcement

Ordinance 2011-28, enacted in 2011. Ordinance 92-93 enacted 1992.

Approved Council Resolution in 2018, naming The Stormwater Manager position as an Officer of the Court with Stormwater Enforcement Authority. This was in addition to the existing three Code Enforcement Department Officers.

Ordinance 2011-28 was designed and adopted by Bryant in order to provide more adequate enforcement capabilities and guidelines as requested by the Arkansas Department of Environmental Quality.

Plan to Ensure Ordinance Enforcement

Violations detected per inspections (Development, Good Housekeeping, Outfalls, Municipal, Basins, Waterways, and Drainage Easements) as well as violation detection that derives from phone tips and Report a Concern (website/email), are followed-up in the field. Violations are assigned a Stormwater Permit number in iWorq and evidence documented. When an illicit discharge is verified and sourced, contact is made with the violating party. A Violation Notice is given to source party which explains the action/s that must be taken to reach compliance, along with the time frame in which it must be completed.

If the violation is not made compliant in the manner and time specified, the violating party is given a court summons. If the violation is not in compliance by the time of court, the Judge will render a verdict. If found guilty, the defendant is given directions and/or fines to reach compliance. Fines start accruing at the time the Violation Notice is given and they accumulate on a daily basis until compliance is reached. This misdemeanor carries fines not less than $100 per day and not more than $500 per day. If the violator reaches compliance before the court date, the fines may be waived upon request of the

Inspector or be charged to the violator. If it goes to court before compliance, it is at the discretion of the Judge on penalties charged.

Informing Employees, Businesses, and Public of the Hazards of Illicit Discharge

Municipal Facilities at Water/Wastewater, Parks and Streets Departments receive inspection and training for each quarter of the year. SWPPPs (Storm Water Pollution Prevention Plans) were created and placed in each Department with the Department Managers. These manuals cover spill prevention, preparation, and response. The manuals also have maps of the facilities/grounds along with stormwater flow lines and protected areas.

During facility inspections, inspectors cover all of the elements of the SWPPP and proper procedures. Noted violations are covered with staff, Department Supervisors and the Director of Public Works. Each facility is assigned a Stormwater permit in iWorq, and inspections are scheduled and performed within this system. The inspection, along with any violations, are emailed, via iWorq, to Department Managers and the Public Works Director. Tailgate training sessions are also done with department employees during inspection times.

The Public is informed through neighborhood meetings, drainage easement inspections, newsletter pieces and website. The City website has an illicit discharge tip line, pollution prevention tips/guidelines, videos, color sheets & comic strips designed for the youth.

The Businesses and Commercial sector is informed through Good Housekeeping Inspections, follow up training, cleaning schedule promotion, and the Business License Renewal inserts which are mailed to an average of 750 license holders.

Plan to Detect, Trace, and Address Illicit Discharge to MS4 System

All of the City of Bryant Outfalls will be inspected over the period of the permit term.

As mentioned, the city is mapped in an alphanumeric fashion with waterways and structures identified. Outfalls are assigned a Stormwater Permit Number and loaded in the inspection/work management system iWorq. Inspections of the Outfalls are scheduled, completed and documented in iWorq per State requirements.

During periods of dry weather normally found in summer, the Outfall inspections are loaded and scheduled for a specific date. These inspections show up on the dashboard of

the electronic notebook assigned to the Inspector. The Inspector will travel to each of these sites as specified on a downloaded map in iWorq and will inspect the condition of the outfall. Inspector reviews the following inspection elements: color, floatables, foreign particles settlement, odor, turbidity, or any signs of illicit discharge. Inspector documents with photos and notes on the created inspection. If there is any sign of illicit discharge resulting from the inspection, the Inspector will backtrack to the source of the discharge. At this point the enforcement process begins. Other detection methods involve phone calls, emails or notification through Report a Concern.

Tracing the source of the illicit discharge involves following the flow to its point of origin. This will involve trekking upstream through creeks, streams, ditches, channels, or curb gutter until source of flow line is reached from a pipe or hose. If not a pipe, the trek could lead to a home, business or other area that appears to be the source for the illicit discharge. Along the trek to find the source, the Inspector will look for signs of illicit discharge such as dead aquatic life (frogs, small fish), odor, color, and particle settlement.

Discharges from illegal dumping and spills are detected in the following ways: phone call tips, Report a Concern, during inspections, and by the canvassing of known areas where illegal dumping is likely to occur such as storm drains, commercial space dumpsters and dead end roadways. Illegally dumped trash is scanned for information containing contact information. The Department will also perform interviews near violating sites for parol evidence that could lead to the source of pollution. These cases are followed-up as mentioned. In several cases, the Department not only can obtain useful parol evidence but photos and videos of the illegal activity as well.

Bryant's illicit discharge detection and elimination program will address various categories of non-storm water discharges or flows if they are identified as significant contributors of pollutants to water bodies in the small MS4. The following may be identified as potential significant contributors:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- 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
- Dechlorinated swimming pool discharges and Street wash water

City of Bryant

Storm Water Management Program

Minimum Control Measure

Construction Site Runoff Control

Mechanisms for Runoff Controls

Ordinance 2011-28, enacted in 2011. Ordinance 92-93 enacted 1992.

Approved Council Resolution in 2018 naming The Stormwater Manager position as an Officer of the Court with Stormwater Enforcement Authority. This was in addition to the existing three Code Enforcement Department Officers.

Ordinance 2011-28 was designed and adopted by Bryant in order to provide more adequate enforcement capabilities and guidelines as requested by the Arkansas Department of Environmental Quality.

Sanctions and Procedures of Implementation

All development activity is inspected for Runoff Controls. The Stormwater Department identifies all building and development projects into these categories: Subdivision, Commercial, House, or Duplex. Each project is loaded into iWorq with a Stormwater Permit number issued to it. The permit main page contains site address, project type, activation date as well as builder/engineer/foreman contact information - phone numbers and emails. Main page also contains the Inspection Module. This allows for scheduling and completion of site inspections where the site is graded on required elements of erosion controls, drain protection, stream protection, permit requirements, SWPPP updates, refueling, repairs, material storage, dumpsters/placement, and Good Housekeeping. Each element on the inspection is recorded as Pass or Fail. For any inspection receiving one FAIL or more, the inspection details (including notes, photos and time frame/actions needed to comply) are emailed to the Foreman and anyone else deemed necessary. The email is considered notification.

A follow up phone call may be executed within 24 hours of sending the email to the Foreman to ensure email was received. This is at the discretion of the Inspector and is based on previous response times and/or the working relationship established with the contractor/builder.

A time and/or date to reach violation compliance is included in the email. The time frames to reach compliance are as follows: immediate, 24 hours, 3-days or 7-days.

Time frame mandated depends upon the severity of the violation, based on threat level to the public or risk level of illicit discharge occurring based on circumstance/situation.

The Inspector will do a follow up inspection based on terms specified in the inspection. If the terms of the email notification are not being met with compliance, and verbal requests are are not effective in making the Foreman comply, a hand written Violation Notice or a Stop Work Order may be executed. The method used is at the discretion of the Inspector and depends on the severity of the discharge threat and the urgency in which the situation needs to be addressed, based on rain forecast or elevated risk of illicit discharge. Both the Violation Notice and the Stop Work Order are delivered in person to the Foreman, or sent by standard mail if a personal meeting is not possible.

Violation Notices state the Ordinance being violated, name of violator, violation address, time allotted to comply, and action to be taken to reach compliance. A Stop Work Order is executed when immediate work is needed to get the site into compliance. This could take place when requests are being ignored or if the situation poses an immediate threat to public safety or the waterways. When a Stop Work Order is issued, a Violation Notice is also issued simultaneously in order to start the accrual process of fines. If compliance of the Violation Notice is not met within allotted time, a ticket is issued with court summons and date. If violation reaches compliance before court date, fines may be charged by the court according to the Inspector's assessment. If the violation is not

compliant by court time, the case goes to the Judge for ruling. If defendant is found guilty of the charges, the Judge reaches a settlement/agreement with defendant.

When a Stop Work Order is issued, a STOP WORK sign is posted prominently on the job site and the site is monitored for illegal work activity. The only work allowed at this time involves getting the site into compliance. When site is in compliance, normal project construction is allowed to continue again.

Erosion and Sediment Control Implementation Requirements

Proper permits and SWPPP materials are required to be posted on site before dirt is disturbed. If construction commences by a Developer before paperwork is in place, a Stop Work Order will be executed until proper paperwork is in place. The Erosion Control Plan is included in these document. The Erosion Control Plan is enforced by the Stormwater Inspector. BMPs for erosion control include silt fencing, reinforced silt fencing, multiple rows of silt fences (depending on slope and size of area affected), waddles, socks, berms, sediment ponds, rock check dams, erosion mats, sodding and seeding.

In the event a planned runoff control fails or is lacking, the Inspector will ask for a workable solution from the Foreman, Engineer or Erosion Control Company in Charge. All erosion controls are inspected for damage, capacity issues and proper placement/installment. Any inspection element that fails will be brought to the attention of the Foreman for replacement, maintenance or repair. Any violation which creates runoff and erosion will be handled in the manner mentioned above.

Stormwater Permits are created for each construction site, and each inspection performed under that Permit is saved by date completed. History of Stormwater Permits along with their inspections, is stored in electronic format. This allows easy tracking and reporting.

Procedures for Site Plan Review

The City of Bryant established The DRC (Development Review Committee) which is managed by the Bryant Planning Department. This group is composed of representatives from each City Department along with Planning Board Members and Developers/Engineers. DRC meets once every other week and reviews requests for new development.

The DRC reviews new development/construction of subdivisions, commercial buildings, duplexes and all new business licenses that have been issued. Site Plans must be submitted which includes Stormwater impact calculations, erosion control measures and

scope of the development. The DRC processes determine if the initial site plans will be approved. Initial plans are reviewed and discussed in DRC. Comments from all Departments are made and the City Engineer composes a list of issues that must be met to bring the initial site plans into compliance with Bryant's Stormwater Management Manual. This process normally involves two to three meetings with DRC. Once plans and conditions meet the requirements, the initial site plan is approved and the Developer bonds/insures the project infrastructure for one year for Streets and Stormwater, and two years for Sanitary Sewer.

The next step involves Public Works initializing a preconstruction meeting with the Engineers and Contractors of the new project. During this precon meeting, the Stormwater Department establishes the ground rules of what is expected before, during and after construction. Permits are verified along with procedures: entrance protection, runoff controls, map updates, waterway and drain protection. Contact information is received and a Stormwater Permit is setup in iWorq to properly track the development.

Sites are prioritized based on location of the project and risk level they pose for potential Illicit Discharge. Large and small sites near waterways are deemed higher priority for frequent observation. The Bryant Stormwater Department has a long standing procedure to inspect all commercial and large development sites on a weekly basis. The Stormwater Department does an inspection as well, two weeks prior to the one year deadline of the Bond, and any follow up needed. If any part of the infrastructure is not to code/plans, the Bond can be called.

The position in charge of this program is The Stormwater Manager within Public Works. The method for evaluating the success of these procedures is: the level of complaints received by The Public and ADEQ. The feedback the Department receives from The Public, Management, State Officials, and Staff, related to confidence level they place on our performance, is taken into account when evaluating the program. Success is also based on iWorq and the increased number of inspections that we complete on an annual basis. The large numbers of documented inspections mean that The Stormwater Department is involved with Development in The City on a daily basis, and that we have established good working relationships with the Contractors and Builders. The routine presence of the Stormwater Department in the field, establishes authority and control of operations and pollution prevention.

City of Bryant

Storm Water Management Program

Minimum Control Measure

Post-Construction Stormwater Management in New Development and Redevelopment

New Development and Redevelopment Stormwater Management

New Development as well as Redevelopment is initiated in the DRC. Ordinance 2011-28 and the Bryant Stormwater Management Manual set the guidelines for how that development will take place related to engineering industry standards. The Planning Department also applies standards that will have a positive impact on pollution prevention in the areas of landscaping requirements, dumpster area placement/protection and zoning re-design to allow for more environmentally conscious development.

One of the elements that the DRC added to the review process, which improved Post-Construction management, was the requirement for new development and redevelopment projects to have a continual maintenance mechanism in place before Final Plat Approval. This mechanism is a Maintenance District or an Improvement District which provides continual maintenance of the post-construction structures that convey stormwater. These structures could be basins, drainage channels, common space and other areas that have an impact on waterways. Keeping them clean and properly maintained is key, and these

districts, which are tax supported, provide more assurance that needed maintenance and Good Housekeeping are being done.

In cases where an improvement/maintenance district is not feasible, DRC will ensure that the tract of land containing the stormwater infrastructure is deeded to the property owners association before final plat approval. This is to ensure the responsible party providing maintenance is named.

The City's New Development/Redevelopment strategy through zoning management has been used to minimize water quality impacts and runoff. One project that is near completion is the revitalization of Original Bryant which is known as The Heart of Bryant. Specialized Zoning parameters where designed in the area that required development that specified more Green Space, Walkability, Mixed Use Commercial/Residential, and Safety. Some asphalt/concrete surfaces were replaced with vegetation beds, landscape trees and lawn space. This was done with a special zoning application in that specific area. This is one of the tools that can be used to direct development into paths that improve Stormwater Impact, the Environment, and Quality of Life. Drain Smart is scheduled to begin the storm drain murals in Spring of 2019. The six drains have been vetted/approved and the process is in place. The Artwork will educate public on storm drains, how they function and where they discharge.

Placement restrictions of projects near sensitive areas is also controlled during the DRC Plat/Project approval process. In these areas, the two main sources of input and approval come from the City Engineering via Crist Engineering and the Director of Code Enforcement who is also the Floodplain Manager for The City. Engineering ensures that necessary permits are presented to DRC before project is approved. These permits are reviewed and issued by State or Federal Agencies. The Code Director directs his approval process based on FEMA guidelines and restrictions.

BMPs and Procedures for Post-Construction

Good Housekeeping Inspections

This is a type of inspection that the Stormwater Department created and performs in which Brick and Mortar establishments, operating in Bryant, are routinely inspected. The site is inspected for runoff control during construction and inspected for Good Housekeeping once complete. Using the list of recorded business license holders, Bryant created Stormwater Permits in iWorq for all brick and mortar businesses. As mentioned we check for Good Housekeeping elements in the parking lot, storm drains, lawn, and dumpster area. We Pass or Fail for floatables, stored materials, maintenance, and working condition of the dumpster related to proper fencing, drain plugs and lids. Fails are discussed with the business Manager for corrective actions and the creation of a Good

Housekeeping schedule with the staff. Lack of cooperation could result in a violation notice and ultimately a ticket to reach resolution.

Basin Inspections

This is a Post-Construction inspection that focuses on the condition of basins in subdivisions,retail/commercial sites or other privately owned sites which contain a basin. The inspection elements in iWorq are as follows: erosion, fencing, inlet pipe, outfall, overflow, silt, spillway, floatables, and vegetation. During annual inspections, these elements receive a pass or fail. A call-in complaint can generate an inspection too. If any element or multiple elements fail, an email notification is sent to owner. Follow up is done for compliance and a violation notice or ticket is issued to achieve compliance based on discretion of the Inspector.

Business License Renewal Letter Stormwater Insert

This BMP is a follow up companion to the Good Housekeeping Inspections. Both have the goal of Post-Construction management that tries to minimize water quality impacts.

Website, Newsletter, and Pamphlets

This BMP is used to provide The General Public, Builders, and Youth with information that reduces impact to waterways. Topics include Watersheds, Rain Gardens, Septic System Maintenance, Drain Protection, Pet Waste Pick-Up, Erosion Control, Vegetative Buffers, Rain Barrels, Hazmat Storage, Proper Herbicide/Fertilizer Use, Vehicle Washing and Lawn Watering.

Assurance of BMPs and Evaluation

Assurance of success and continual operation of BMPs are directed by the system that has been put in place. This includes the DRC, Ordinances, processes, guidelines, procedures and the creation of the Stormwater Modules in iWorq which documents and prompts activities that support requirements of the MS4 permit.

The position responsible for this process and the continuation of the processes is The Stormwater Manager in Public Works.

The measurable goals were selected based on the direct connection they provide with the target group impacting Stormwater quality. Instructions to prevent potential pollution sources are provided along with personal field support through the Good Housekeeping Inspections performed. Success of the programs are judged through feedback received from The General Public, Builders, Contractors, City Staff, and ADEQ.

City of Bryant

Storm Water Management Program

Minimum Control Measure

Pollution Prevention/Good Housekeeping for Municipal Operations

Control Measures and Municipal Facilities Managed Under Permit

Facilities Inspected Quarterly for Annual Reporting Period:

- Parks and Rec. at Bishop Park at 6401 Boone Road. The areas inspected include maintenance shop and grounds, outside and around the grounds of The Center, and roadway and grounds from main entrance to the end of park around St. Charles Lake.

- Streets Department at 1017 SW 2nd Street on the Public Works property. The areas inspected include all of the grounds, fueling station, staging areas, around mechanic shop, chemical and equipment storage, vehicle/equipment wash bay.

- Water & Wastewater (combined) at 1019 SW 2nd St., exterior grounds, fueling station, chemical storage, equipment and material staging area.

These facilities were designated following the 2012 audit per ADEQ.

Facility Good Housekeeping Inspection Program

For all facilities, A SWPPP (Storm Water Pollution Prevention Plan) was created by the Stormwater Manager with input from the Department Managers. A map was created for each department showing water flow lines, sensitive areas, outfalls, grounds, facilities, hazmat storage, staging areas, mechanic shop, fuel stations, and dumpster areas. The Maps were placed in the SWPPP Notebooks and placed in the associated Department Manager's office. The SWPPP is used to record spills and the process of cleanup and disposal.

There are four inspections scheduled in iWorq and performed on a quarterly basis. During these inspections, there is a set of inspection elements that receive either a Pass or Fail. All situations receiving a FAIL are photographed and stored in the inspection module along with comments that explain how to get the facility into compliance.

Once the Facility Inspection is complete, the details of the inspection, along with notes and photos, are emailed to the Department Manager, Area Supervisor and Department Director. The Stormwater Inspector meets with the Area Supervisor either during the facility inspection or at the time inspection is completed, to go over any violations and steps to resolution. Seven days after the initial inspection, a follow up inspection is done to make sure areas are in compliance. The details of the final inspection are emailed to same Managers, in order to inform that compliance has been achieved.

This procedure lets the Director know the process is complete and it serves as an incentive, building pride in a job well done. The results of the facility inspections are also discussed during the weekly Department Meetings. This helps with the completion of outstanding issues and gives an opportunity to express appreciation for work completed by employees and staff.

The areas that we inspect include Good Housekeeping: floatables removal in all areas. The dumpsters are inspected for missing plugs and faulty lids. The dumpster company is contacted for needed replacements. As mentioned, we inspect staging areas, fueling stations (spill kit placement), material storage, and any source or condition that presents a risk of illicit discharge. Besides the quarterly inspections, the Stormwater Department keeps a daily lookout for any violations. Violations are immediately dealt with for quick response.

Training and Materials

During facility inspections, the Inspector will hold Tailgate training sessions with Managers and employees to cover topics: Waterway Protection, Runoff Controls, Material/Equipment Storage, Herbicide Use, Floatables, and Spill Prevention/Recovery.

For The Parks Department, The Stormwater Department created an informational guideline/agreement with Parks Management dealing with herbicide usage on site. It listed restricted usage, product information, and MSDS documentation. The Guideline/Agreement specified the use of line trimmers for areas that were restricted. This was productive and the process to develop the plan involved several meetings with feedback and instruction.

Due to workload and limited time, The Parks Department contracted the lawn care to an outside service for areas that required line trimming and mowing. This includes Bishop Park as well as other Park properties. This has ensured proper maintenance of the areas in or near waterways.

Stormwater employees also receive training from The National Stormwater Center (part of NPDES) for Certified Stormwater Inspectors (MS4) and Commercial Inspector Training. Employees also receive training on an annual basis at the EPA Region 6 Conference. Topics include Erosion Control, Detention Basin Care, Stormwater System Maintenance, Industrial/Commercial Inspections and Public Education Outreach Methods.

Violations related to facility inspections and the progress toward reaching compliance on each issue is discussed at the weekly Public Works Meetings. All managers in Public Works gain knowledge of Stormwater and the importance of the program. The Public Works Director, Mark Grimmett, applies a great deal of importance on the matter of keeping operations compliant. This support ensures actions will be completed in a timely manner which has an overall positive effect on Stormwater Pollution Prevention in Municipal Operations.

Maintenance Programs

- **Street Sweeping** - is performed on a routine basis throughout the year. Procedures, area maps and cleanup schedules are loaded in iWorq for the Streets Department. The process helps keep silt and other materials out of storm drains and waterways which serves as Flood Mitigation and Pollution Prevention. Spoils from the sweeper are used to fill in a decommissioned EQ pond at the Waste Treatment Plant. The decommissioned EQ pond has runoff controls in place for rain events.

- Vehicle and Equipment Wash Bay - This was completed in 2018. The facility drains to a drying bed where it is filtered/treated before entering into waterways.

- Work Release Program through A.D.O.C. - This program assists Bryant in the Departments of Parks, Streets, Stormwater and Wastewater. Stormwater and Streets use the program on a routine basis to remove floatables along street right of ways (including ditches). Stormwater uses the program to remove vegetation, floatables, and silt from basins, drainage easements, ditches, and waterways. It has had an enormous, positive impact on Good Housekeeping and Stormwater pollution prevention/flood mitigation.

Program Performance and Responsible Party

Success of the program is judged on results which include: amount of floatables, trash and debris removed annually; areas and distances covered; reduction of violations recorded for facility inspections; cooperation and feedback received from Department Managers and city employees. When facilities do a great job of keeping their areas in compliance, it is noted, praised and brought to the attention of Department Directors.

The position responsible for this program is the Stormwater Manager.

GLOSSARY

Aluminum - Aluminum is a lightweight, silver-white, metallic element that makes up approximately 7 percent of the Earth's crust. Aluminum is mined in the form of bauxite ore where it exists primarily in combination with oxygen as aluminum. Aluminum is used in a variety of ways, but perhaps most familiarly in the manufacture of soft drink cans.

Aquatic Life – any indigenous species of plants or animals living in water.

Aquifer – an underground geological formation or group of formations containing usable amounts of groundwater that can supply wells and springs; an underground bed or stratum of sand, gravel, or rock that stores or conveys water below the surface of the soil.

Bacteria – single-celled microorganisms that lack chlorophyll. Some bacteria are capable of causing human, animal or plant diseases; others are essential in pollution control because they break down organic matter in the air and in the water.

Best Management Practice (BMP) – means any program, technology, process, siting criteria, operational methods or measures, engineered systems, or practice or combination of practices determined to be the best known or most practicable means of preventing, controlling, or reducing pollution to a level compatible with water quality goals.

Clean Water Act (CWA) – federal Water Pollution Control Act enacted in 1972 and amended by the Water Quality Act of 1987. The Clean Water Act prohibits the discharge of pollutants to waters of the United States unless the discharge is in accordance with an NPDES permit. The 1987 amendment requires that municipalities regulate industrial and construction stormwater discharges and those stemming from development.

Close the Loop - A term used to describe the last, and most important, step in the recycling process. It refers to the point when a consumer buys a recycled product after it has been put into a recycling program and reprocessed into a new item.

Coliforms – any of a number of organisms common to the intestinal tract of animals, the presence in water of which is an indicator of pollution and of potentially dangerous bacterial contamination.

Commercial Development – means any development that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, multi-apartment buildings, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

Compost - Composting is Nature's way of recycling. Composting refers to a solid waste management technique that uses natural processes to convert organic materials to humus through the action of microorganisms. Compost is a mixture that consists largely of decayed organic matter and is used for fertilizing and conditioning land.

Conservation - Conservation is the wise use of natural resources (nutrients, minerals, water, plants, animals, etc.). Planned action or non-action to preserve or protect living and non-living resources.

Constructed Wetlands – an artificial wetland system designed to mitigate the impacts of urban runoff.

Contractor Certification Program – a voluntary program in which the city will provide periodic seminars and training to educate contractors and other professionals on the proper procedures for installation and maintenance of erosion and sediment control measures and related matters. Refer to the City of Bryant Best Management Practices manual for additional information.

Control – means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

Designated Uses – those water uses identified in state water quality standards that must be achieved and maintained as required under the Clean Water Act. Uses can include cold water fisheries, public water supply, agriculture, etc.

Development – means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity. Or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Discharge – the volume of water that passes through a given cross section of a channel or sewage outfall during a unit of time.

Discharging Directly – means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

Dissolved Oxygen (DO) – the amount of free (not chemically combined) oxygen in water; the concentration of oxygen held in solution in water, which is vital to fish and other aquatic organisms and for the prevention of odors. It us usually measured in mg/L or expressed as a percentage of the saturation value for a given water temperature and atmospheric pressure. In general, oxygen levels decline as pollution increases.

Dissolved Solids – the total amount of dissolved material, organic and inorganic, contained in water or wastes; excessive dissolved solids make water unpalatable for drinking and unsuitable for industrial uses.

Disturbed Area – means an area that is altered as a result of clearing, grading, and/or excavation.

Effluent – a discharge of pollutants (usually in liquid form) into the environment, partially or completely treated or in its natural state; generally used in regard to discharges into waters; liquid flowing out of a system, such as discharge of stormwater from an urban outfall, liquid waste from a factory, or water leaving a sewage treatment plant.

Erosion – the wearing away of land surfaces by the action of wind or water.

Filtration – in stormwater treatment, a common process that removes particulate matter by separating water from solid material, usually by passing it through sand.

Fossil Fuels - Fossil fuels are the remains of plant and animal life that are used to provide energy by combustion; coal, oil, natural gas.

Glass - Glass is a hard, brittle, generally transparent or translucent material typically formed from the rapid cooling of liquefied minerals. Most commercial glass is made from a molten mixture of soda ash, sand, and lime.

Good Housekeeping Practice – a common practice related to the storage, use, or cleanup of materials performed in a manner that minimizes the discharge of pollutants. Examples include cleaning up spills and leaks and storing materials in a manner that will contain any leaks and spills.

HDPE - High density polyethylene. A type of plastic that is commonly used in milk and water jugs.

Hazardous Material – a material that is easily ignitable under ordinary temperature and pressure; readily supplies oxygen or reactive gas to a fire; is corrosive (highly acidic or caustic); is explosive or generates toxic gas; is acutely toxic to animals if it comes into contact with skin or is inhaled, eaten or drunk; or contains toxic chemicals that can be dissolved in an acidic environment, such as a landfill.

Heavy Metals – metals with high molecular weights that are of concern because they are generally toxic to animal life and health if naturally occurring concentrations are exceeded. Examples include arsenic, chromium, lead, and mercury.

Hillside – means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater and where grading contemplates cut or fill slopes.

Household Hazardous Waste - A product that is discarded from a home or a similar source that is either ignitable, corrosive, reactive, or toxic (e.g. used motor oil, oil-based paint, auto batteries, gasoline, pesticides, etc.).

Impervious – a hard surface (such as a parking lot), which prevents or retards the entry of water into the soil, thus causing water to run off the surface in greater quantities and at an increased flow rate.

Industrial/Commercial Facility – an facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services.

Infiltration – means the downward entry of water into the surface of the soil or the flow of a fluid through pores or small openings, commonly used in hydrology to denote the flow of water into soil material.

Legal Authority – defined as the ability to impose and enforce statues, ordinances, and regulations to require control of pollutant sources and regulate the discharge of pollutants to the storm drain system, and to enter into interagency agreements, contracts, and memorandums of understanding.

Litter - Waste that is improperly disposed of on the street, sidewalk, lakes and other bodies of water, and in the general environment.

Maximum Extent Practicable (MEP) – standard for implementation of stormwater management programs to reduce pollutants in stormwater. MEP refers to stormwater management programs taken as a whole. It is the maximum extent possible taking to account equitable consideration and competing facts, including but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility. Section 402(p)(3)(B)(iii) of the Clean Water Act requires that municipal permits shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Municipal Separate Storm Sewer System (MS4) – conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage,

industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control or drainage district, similar entity, and Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the Clean Water Act that discharges to water of the United States.

Municipal Solid Waste - Garbage or refuse that is generated by households, commercial establishments, industrial offices or lunchrooms and sludges not regulated as a residual or hazardous waste. This does not include source-separated recyclables.

New Development – means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

Non-point Source Pollution – water pollution caused by rainfall moving over and through ground which carries pollutants.

Non-Renewable Resource - A resource that is NOT capable of being naturally restored or replenished; a resource that is exhausted because it has not been replaced (e.g. copper) or because it is used faster than it can be replaced (e.g. oil, coal [what we call fossil fuels]). Their use as material and energy sources leads to depletion of the Earth's reserves and are characterized as such as they do not renew in human relevant periods (They are not being replenished or formed at any significant rate on a human time scale).

Non-structural BMP – a best management practice that does not require construction of a facility to control urban runoff.

NPDES – National Pollutant Discharge Elimination System initiated in 1972 by the amendments to the Federal Water Pollution Control Act (the Clean Water Act or CWA) to address the discharge of pollutants to navigable waters from point sources unless the discharge is authorized by an NPDES permit. The Water Quality Act of 1987 added section 402(p) to the CWA establishing phased and tiered requirements for stormwater discharge under the NPDES program. This manual serves to assist in meeting the requirements of the NPDES Permit.

Operator – a state, city, town or other public entity that discharges to the waters of the United States. The city of Bryant is the operator of the small MS4 per NPDES phase II regulations, as permitted by the Arkansas Department of Environmental Quality, and is the entity for responsible for implementation and enforcement of its Stormwater Management Program.

Organic - A term that refers to molecules made up of two or more atoms of carbon, generally pertains to compounds formed by living organisms.

Organism – any living plant or animal; a living body made up of cells, tissues and organs.

Packaging - The wrapping material around a consumer item that serves to contain, identify, describe, protect, display, promote, and otherwise make the product marketable and keep it clean.

Paper - A thin material made of pulp from wood, rags, or other fibrous materials and used for writing, printing, or wrapping.

Pet Waste - Use designated dog runs for pets. Use disposable bags for clean up after pets.

Pathogen – disease-causing organisms.

Plans – a set of drawings that depicts improvements, which require permitting and/or city approval at the planning and/or public works department prior to construction.

Point Source – pollution arising from a well-defined origin, such as a discharge from an industrial plant.

Pollutant – any introduced gas, liquid, or solid that makes a resource unfit for a specific purpose. A substance that pollutes air, water or land. They are defined in Section (502) of the federal Clean Water Act (33 U.S.C. ' 1362(6)), or are incorporated into the California Water Code ' 13373. Specifically, pollutants that are carried by runoff from rain storms or other watering activities. Examples of pollutants include but are not limited to the following:

- Commercial and industrial waste (such as fuels, solvents, detergents, plastic pellets, hazardous substances, fertilizers, pesticides, slag, ash, and sludge);
- Metals such as cadmium, lead, zinc, copper, silver, nickel, and chromium; and non-metals such as phosphorus and arsenic;
- Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease);
- Excessive eroded soils, sediment, and particulate materials in amounts which may adversely affect the beneficial use of the receiving waters, flora, or fauna;
- Animal wastes (such as discharge from confinement facilities, kennels, pens, recreational facilities, stables, and show facilities);
- Substances having characteristics such as pH less than 6 or greater than 9, unusual coloration or turbidity, excessive levels of fecal coliform, fecal streptococcus, or enterococcus.

Pollutant Loading – the quantity of a pollutant found in stormwater and/or urban runoff expressed in mass per unit of time. Pollutant loadings are commonly expressed in units of tons/year or pounds/year.

Pollution Prevention – eliminating or reducing at the source the use, generation, or release of toxic pollutants, hazardous substances, and hazardous wastes.

Polyethylene terepthalate - A type of plastic used to make soft drink bottles and other kinds of food containers. PET is also used to make fabric.

Receiving Water – rivers, lakes, oceans, or other bodies that receive runoff.

Redevelopment – land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the alteration must be mitigated, and not the entire development. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety. Existing single family structures are exempt from the redevelopment requirements.

Runoff – the portion of rainfall or irrigation water and other watering activities also known as dry-weather flows that flow across the ground surface and eventually to receiving waters. Runoff can pick up pollutants from the air or the land and carry them to receiving waters.

Sedimentation – in stormwater treatment, the settling out of solids by gravity; the addition of soils to lakes, a part of the natural aging process, making lakes shallower. The process can be greatly accelerated by human activities.

Significant Contributor – includes not only pollutant loading but also a discharge that destabilizes the physical structure of a water body such that the discharge that may exert detrimental effects on the quality and uses of that water body.

Source Control BMP – means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

Storm Drain System – any pipe or conduit used to collect and carry away stormwater runoff from the generating source to receiving streams. A sewer that conveys household and commercial sewage is called a sanitary sewer. A storm drain transports runoff from rain or snow.

Storm Event – means a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather.

Stormwater – water which originates from atmospheric moisture (rainfall or snowmelt) and falls onto land, water, or other surfaces.

Stormwater Management Program (SWMP) – Bryant's all encompassing program to meet the requirements of NPDES Phase II Final Rule.

Stormwater Pollution Prevention Plan (SWPPP) – A plan designed to eliminate or reduce at the source the use, generation, or release of toxic pollutants, hazardous substances, and hazardous wastes from entering storm waters.

Structural BMP – a best management practice that involves design and construction of a facility to mitigate the adverse impact of urban runoff. The structures often require maintenance.

Surface Water – water on the earth's surface exposed to the atmosphere such as rivers, lakes, streams, and the oceans.

Suspended Solids – small particles that hang suspended in the water column and create turbid, or cloudy, conditions.

Toxicity – the quality or degree of being poisonous or harmful to plant or animal life.

Treatment – means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

Treatment Control BMP – means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

Urban Runoff – stormwater from city streets and gutters that usually contains a great deal of litter and organic and bacterial wastes.

USEPA – United States Environmental Protection Agency, the federal agency that enforces federal regulations and administers federal programs such as the NPDES program. These regulations require the discharges from defined municipal separate storm drain systems, industrial facilities, and construction activities to comply with the NPDES permit conditions intended to reduce or eliminate the discharge of pollutants from stormwater drainage systems. In California, the USEPA has delegated its authority to issue NPDES permits to the State Water Resource Control Board and the nine Regional Water Quality Control Boards.

Water Pollution – the addition of sewage, industrial wastes, or other harmful or objectionable material to water in sufficient quantities or concentrations to result in measurable degradation of water quality.

Water Quality Criteria – the levels of pollutants that affect the suitability of water for a given use. Generally, water use classifications include public water supply, recreation, propagation of fish and other aquatic life, agricultural use, and industrial use.

Water Quality Standard – acceptable limits on water quality parameters—those criteria set by the State of California, for instance, with review by the EPA, so that when enforced they will meet the goals of the Clean Water Act.

Watershed – area drained by a given stream; an area bounded peripherally by a water divide and draining to a particular water course or body of water. Topography is the primary determinant of watershed boundaries.

Wetland – swamps or marshes, especially areas preserved for wildlife. Wetlands are crucial wildlife habitats and are important for flood control and maintaining the health of surrounding ecosystems.

Wet Pond – pond for urban runoff management that is designed to detain urban runoff and always contain water.