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**CITY OF ST. ALBANS, WEST VIRGINIA
MS4 MANAGEMENT PLAN**

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Emphasis: Engineering Management
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Abstract

Watkins, Shelley Dawn, Marshall University, May, 2010. City of St. Albans, West Virginia, MS4 Management Plan. Major Professor: Dr. Eldon Larsen.

In order to provide a path to compliance with the West Virginia National Pollutant Discharge Elimination System (NPDES) General Water Pollution Control Permit, a Small Municipal Separate Stormwater System (MS4) Management Plan has been prepared for the City of St. Albans, West Virginia. The plan has been developed through the use of guidance documents published by the United States Environmental Protection Agency, detailed review of the WV NPDES General Water Pollution Control Permit, review of existing Stormwater Management Plans, and through the establishment of a St. Albans Stormwater Committee that has provided valuable input and a means of data collection. Implementation of the proposed plan will enable the City of St. Albans to meet all Phase II regulatory requirements outlines in the WV NPDES General Water Pollution Control Permit, effective July 2009.

Acknowledgements

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City of St. Albans, West Virginia MS4 Management Plan

Introduction

Under the State of West Virginia National Pollution Discharge Elimination System (NPDES) General Water Pollution Control Permit, effective July 22, 2009, municipalities, counties, transportation facilities, federal and state prisons, and universities located within the boundaries of an Urbanized Area (UA), as defined by the 2000 U.S. Census must develop and implement a stormwater management program with the goal to reduce the discharge of pollutants from its Small Municipal Separate Stormwater System (MS4) to the Maximum Extent Practical (MEP), in order to meet the requirement of the Clean Water Act and protect water quality.

The Environmental Protection Agency has outlined six minimum control measures that must be met by MS4 communities through the development and implementation of their stormwater management plan. The six minimum control components are:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Controlling Runoff from Construction Sites
5. Controlling Runoff from New Development and Redevelopment
6. Pollution Prevention and Good Housekeeping

Through literature review, data collection, surveys, and conducting meetings with the stormwater committee my project develops a realistic Stormwater Management Plan, for the City

of St. Albans, which identifies measurable goals, milestones, and justification for each of the six minimum measures. When fully implemented, the developed Stormwater Management Plan will enable the City of St. Albans to fully comply with the WV NPDES General Water Pollution Control Permit Conditions.

Literature Review

Due to MS4 requirements being relatively new and complex, the United States Environmental Protection Agency, in partnership with other agencies or universities, continually publishes new guidance documents targeted a various areas of the MS4 Stormwater Program, as the program continues to develop. Large and small communities are at difference stages of stormwater program development, with small urbanized areas such as St. Albans and all other urbanized communities in West Virginia, being classified as Phase II MS4 Communities. Guidance documents applicable to the requirements set by the West Virginia Department of Environmental Protection General Water Pollution Control Permit were utilized during the development of the of the MS4 Stormwater Management Plan and included:

Pitt, Robert and the Center for Watershed Protection. Illicit Discharge Detection and Elimination: A Guidance manual for Program Development and Technical Assessments. October, 2004.

Urban Subwatershed Restoration Manual Series: Municipal Pollution Prevention/Good Housekeeping Practices, Manual 9. Version 1.0. September, 2008.

Urban Subwatershed Restoration Manual Series: Pollution Source Control Practices, Manual 8. Version 2.0. February, 2005.

Stormwater Phase II Final Rule Fact Sheet Series, United States Environmental Protection Agency, EPA 833-F-00-009, January 2000 (revised December 2005)

Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites, United States Environmental Protection Agency, EPA 833-R-09-004, May 2007.

The guidance documents prepared by the Environmental Protection Agency (EPA) were helpful formulating Best Management Practices (BMPs), measureable goals, and means of measurements for the goals that will meet expectations set by stormwater program regulations. The documents should be utilized throughout the implementation of the Stormwater Management Plan and will offer great assistance in the development the necessary procedures and documentation forms required under each Minimum Control.

In addition to the guidance documents developed by the EPA, it was most important to meet all the requirements outlined within the WV/NPDES General Water Pollution Control Permit No. WV0116025, effective July 22, 2009. The permit and the WV Small MS4 General Permit Fact Sheet Rationale created in June 2009 were continually utilized to ensure all permit conditions were addressed within the City's MS4 Stormwater Management Plan.

The City's 2004 MS4 Stormwater Management Plan, created to meet the requirements outlined during the first permit cycle, was reviewed in order to evaluate the progress obtained during the first permit cycle, identify resources and BMPs that should currently be in place, and determine practices what goals the City did not obtain. The City of Hurricane's 2004 MS4 Stormwater Management Plan was also reviewed in an effort to identify goals from a comparable MS4 Community and identify possible BMPs and programs that would assist in meeting the educational outreach and public participation efforts required during the second permit cycle.

Research Methods

In order to develop obtainable, measurable goals in the proposed MS4 Stormwater Management Plan it was very important to measure the progress made through the implementation of the City's first permit cycle, 2004 Stormwater Management Plan. A survey

and questionnaire was developed to measure the progress, identify obstacles that prevented the City from meeting their established goals, and identify means that enable the City to be successful in set goals.

In an effort to identify current resources, obtain buy in and educate those that will implement the plan, and generate ideas from public representatives, City Officials, and City Employees, a MS4 Stormwater Committee was developed. A series of meetings were conducted with the MS4 Stormwater Management Committee, the first to identify progress of the previous cycles management plan, to educate the Committee on Minimum Measures Nos. 1 and 2, and to generate ideas for educating and activities involving the public on stormwater subject areas that can realistically be carried out by the City of St. Albans. Prior to meeting, Stormwater Committee members were provided with a packet that was to be reviewed and contained items to be completed before attending the meeting. The packets included the meeting agenda, a list of the packet documents, the 2004 Stormwater Management Plan, a progress survey, the new WV NPDES Pollution Control Permit, and two worksheets that required committee members to generate education and activity ideas to meet the requirements of Minimum Measures Nos. 1 & 2. During the meeting these ideas were listed on large posters and meeting attendees were asked to place stickers by the ideas they thought would be most effective. The ideas receiving the most stickers were taken into consideration during the development of the measureable goals for Minimum Measures Nos. 1 and 2, in the proposed Stormwater Management Plan. Surveys were collected and reviewed during the second Stormwater Committee meeting.

The second Stormwater Committee meeting educated the Committee on the Minimum Measures Nos. 3 and 6. Input was received as to the resources and current departmental operational procedures. The results of the progress survey were discussed and was noted that

one survey participant had answers much higher than other Committee members. After further discussion, it was determined that some goals and stormwater activities were in fact being carried out by the Public Works Department through their annual little clean-ups and regular operation and maintenance procedures. However, documentation, tracking, and organized record keeping as part of the Stormwater Management Program were somewhat lacking.

Minimum Measures Nos. 4 and 5, were discussed in a separate meeting with the building official in order to evaluate existing procedures for obtaining building permits, educate him on the WV NPDES General Water Pollution Control Permit for MS4 Communities, and receive input for setting realistic goals that may be obtainable through incorporating additional Stormwater Protection measures during the public's application for building permits.

Stormwater Committee meetings have continually been held to evaluate drafts of the MS4 Management Plan, implement general stormwater education, and to establish a regular means of communication. The Stormwater Committee will need to continually meet throughout the implementation of the proposed Stormwater Management Plan to conduct annual reviews or ordinances, procedures, and implemented goals, promote interdepartmental communications relating to stormwater requirements, promote input from the public through attendance at Stormwater Committee meetings, and to continually adjust measurable goals and re-plan as needed.

Results

Progress Survey Results

Minimum Measure	Member 1	Member 2	Member 3	Member 4	Member 5	Mean	Median	Mode
1	3	4	3	8	3	4.2	3	3
2	3	2	3	6	3	3.4	3	3
3	3	3	3	7	2	3.6	3	3
4	1	2	4	4	4	3	4	4
5	1	2	1	1	2	1.4	1	1
6	4	3	8	4	3	4.4	4	4

Exhibited in the survey results above, it was the overall opinion of the Stormwater Management Committee that very little progress has been made during the previous permit cycle. Obstacles that were identified from questionnaires attached to the survey were that no set dates or point of responsibility was identified to hold various people accountable for certain tasks, lack of enforcement, and lack of leadership. The lack of funding for implementation of measurable goals is somewhat a concern of the committee's as well. Many communities such as the City of Hurricane, City of Beckley, and the City of Morgantown have implemented stormwater fees to fund the Stormwater Program. The Stormwater Management Committee will address these obstacles will be address during the implementation of the new Stormwater Management Plan is energized to start implementing stormwater program activities. After the initial two Stormwater Committee meetings, the Public Works office established a Stormwater Hotline, and an article was submitted in the March 2010 issue of the St. Albans Monthly.

Proposed Stormwater Management Plan

Minimum Control Measure No. 1: Public Education and Outreach

In order to have public support, which is crucial for a successful stormwater management program, the City of St. Albans must have informed and knowledgeable residents, businesses, industries, elected officials, policy makers, and employees. It is critical to gain buy-in from the community in order to adequately fund stormwater education initiatives, implement volunteer programs, implement best management practices, and create community partnerships. As the community gains an understanding of the stormwater best management practices, they will become aware of their personal responsibilities to protect and improve stormwater quality.

The goal of the City of St. Albans' public education and outreach program is to reduce or eliminate behaviors and practices that contribute to adverse stormwater impacts. The City will satisfy this minimum control measure through implementing a public education program which includes the distribution of education materials, conducting outreach activities, partnering with local organizations, maintaining a stormwater website, and maintaining a public education log book to track and record public education activities.

The West Virginia Department of Environmental Protection (WVDEP) has outlined the subject areas and target audiences for the current permit cycle in the WV NPDES General Water Pollution Control Permit. The City of St. Albans addresses each target audience and subject area in the tables on the following pages. The tables identify the Best Management Practice, the measurable goal for that practice, justification for the practice, the means of measuring understanding and adoption of the goal, implementation milestones, and the documentation method for tracking and maintaining public education records.

Target Audience: General Public						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Best Management Practice	Documentation Method
General Impacts of Surface Waters	Education of School Age Children	Educating school children on stormwater and water quality practices will help promote better public awareness.	Stormwater Education provided to at least one classroom visit per year..	<ul style="list-style-type: none"> • Education Conducted • Rain Garden Design Contest Conducted • Rain Garden Design Chosen 	Stormwater education for school children	<ul style="list-style-type: none"> • Rain Garden Design • Classroom Visit form Signed by Teacher • Education materials
General Impacts of Surface Waters	Distribution of Stormwater Door Hangers during Storm Drain Marking Activities	Educating the general public on stormwater and water quality practices will help promote better public awareness.	Distribution of Door Hangers to at least 200 residents of St. Albans.	<ul style="list-style-type: none"> • Stormwater Door Hanger Purchased • Distribution of at least 100 Stormwater Door Hangers 	Stormwater education for General Public through Print Media	<ul style="list-style-type: none"> • Stormwater Door Hanger • Stormwater Education Materials Log • Stormwater Education Question in St. Albans monthly for a prize.

Target Audience: General Public						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Best Management Practice	Documentation Method
Impacts from Impervious Surfaces	Education of Impacts from Impervious Surfaces completed during Public Workshop	Educating the general public on the impacts of impervious surfaces & green technologies that will potentially reduce the vol. of stormwater runoff that comes in contact with contaminants, increasing stormwater quality.	At least five St. Albans Residents from the General Public receive education at public workshop.	<ul style="list-style-type: none"> • Workshop Presenter Secured • Workshop Advertised • Presentation Completed 	Presentation at Public Workshop	<ul style="list-style-type: none"> • Public Workshop Advertisement • Quiz Completed during Public Workshop
Source Control BMPs & Environmental Stewardship	Education of Source Control BMPs (Ind.& Com. Hot Spots, Household Wastes, Pesticides, Herbicides, & Fertilizer Mgt. and Materials Storage)	Education on Source Control helps prevent the disposal or limit the application of potential stormwater pollutants.	One article or pamphlet per year on a Source Control BMP made available for public Viewing.	<ul style="list-style-type: none"> • Article Complete • Article made available for public viewing • Pamphlets made available 	Public Education through Electronic & Print Media	<ul style="list-style-type: none"> • Hard Copy of Articles • Available Pamphlets

Target Audience: General Public						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Best Management Practice	Documentation Method
Pet Waste	Education of the General Public on the effects of pet waste on water quality.	Educating the general public on the impacts of pet waste on stormwater runoff will potentially increase storm water quality through reducing instances that stormwater comes into contact with fecal matter.	<ul style="list-style-type: none"> • Number of signs installed at dog park • Articles, brochures, or posters for public given out 	<ul style="list-style-type: none"> • Signs installed at Dog Park at Waste Stations • Education media disseminated to public 	Public Education through Print or Electronic Media	<ul style="list-style-type: none"> • Sign at Dog Park • Quiz Question on Stormwater Web Page • Article in St. Albans Monthly
Vehicle Maintenance	Education of the General Public on high potential of pollution from vehicle maintenance and steps to be taken to prevent stormwater pollution.	Educating the steps to take for proper vehicle maintenance and repair activities will reduce the potential of pollutants entering the stormwater system.	<ul style="list-style-type: none"> • Number of brochures distributed • Number of posters, posted citywide 	<ul style="list-style-type: none"> • 100 brochures distributed on vehicle maintenance • 10 Vehicle Repair and Maintenance Posters posted 	Public Education through print media	<ul style="list-style-type: none"> • Education Initiative Poster • Education Initiative Brochure • Quiz Question with spill kits for an award. • Record in Public Education Log

Target Audience: General Public						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Best Management Practice	Documentation Method
Landscaping	Education of the General Public on Water Efficient Landscaping.	Educating the Public on how they can utilize water efficient landscaping provides the public with the knowledge to make environmentally conscious decisions when designing their landscape in an effort to conserve water, & reduce pollution.	Distribute at least 50 Water Efficient Landscaping Booklets on a yearly basis at events and meetings held in the City of St. Albans	<ul style="list-style-type: none"> • Water Efficient Landscaping Booklets Printed • 50 Booklets Distributed for the year 	Public Education through Print Media	<ul style="list-style-type: none"> • Copy of Water Efficient Landscaping Booklet • Record on Log of Public Distribution Materials • Quiz Question on Water Efficient Landscaping with a chance to win a gardening set.
Rain Water Reuse	Education of Rain Water Reuse Technologies and the benefits of rainwater reuse completed during Public Workshop	Educating the general public on the benefits of utilizing rain-water reuse technologies will reduce the volume of storm-water runoff that comes in contact with contaminants.	At least five St. Albans Residents from the General Public receive education at public workshop.	<ul style="list-style-type: none"> • Workshop Presenter Secured • Workshop Advertised • Presentation Completed 	Presentation at Public Workshop	<ul style="list-style-type: none"> • Public Workshop Advertisement • Quiz Completed during Public Workshop

Target Audience: General Public, Businesses (Home Based & Mobile)						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
BMPs for use & storage of auto chemicals, hazardous cleaning supplies, carwash soaps, & other hazardous materials	Education of the General Public & Businesses of BMPs for storage of auto-chemicals, hazardous cleaning supplies, carwash soaps, & Other hazardous materials	Educating the steps to take for proper usage and storage of chemicals, cleaners, and hazardous materials will reduce the potential of pollutants entering the stormwater system.	<ul style="list-style-type: none"> • Distribute at least 200 brochures before 2014 • Post at least 10 posters city wide during 2014 	<ul style="list-style-type: none"> • Brochures on use & storage of chemicals, cleaners, & hazardous chemicals distributed • Use & Storage Posters Posted 	Public Education through print media	<ul style="list-style-type: none"> • Education Initiative Poster • Education Initiative Brochure • Survey with prize • Record in Public Education Log
Impacts of Illicit discharges & How to report them	Education of General Public and Businesses of IDDE Ordinance, Hotline, Response Procedures, and Impacts of Illicit Discharges	Education on IDDE Impacts, Ordinance, Hotline, and Response Procedures helps increase the awareness of stormwater pollutants and compliance with the ordinance.	<ul style="list-style-type: none"> • Article Distributed in St. Albans Monthly • Magnet with Number • Calls Received on Hotline • Website Hits on IDDE Webpage 	<ul style="list-style-type: none"> • Article Printed • Ordinance Complete • Ordinance in Effect • IDDE Education on Web • Hotline Established 	Public Education through Print and Electronic Media	<ul style="list-style-type: none"> • Ordinance • Education Material • Record in Public Education Log • Information on Website • Public Signage

Target Audience: Homeowners, Landscapers, and Property Managers						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
Yard care techniques that protect water quality and BMPs for use & storage of pesticides & fertilizers	Education of the Homeowners, Landscapers, and Property Managers on Water Efficient Landscaping and the application and storage of pesticides and fertilizers.	Educating the Public on how they can utilize stormwater friendly landscaping provides homeowners, landscapers, & property managers with the knowledge to make environmentally conscious decisions when designing and maintaining landscapes in an effort to conserve water, & reduce pollution.	Run an article in the St. Albans Monthly once a year covering proper fertilizing and pesticide application and water efficient landscaping techniques. Partner with the St. Albans Garden club once a year to provide an educational meeting covering fertilizer & pesticide application and water efficient landscaping, with a participant survey.	<ul style="list-style-type: none"> • Article completed • Article Ran in print media • Record of Article made in Education Log Book • Speaker secured for meeting • Presentation made • Record of Meeting in Education Log Book 	Public Education through Print Media Presentation at Local Garden Club Meeting.	<ul style="list-style-type: none"> • Copy of Article maintained in Education Log Book • Copy of Meeting Advertisement maintained in Education Log Book • Completed Surveys from Garden Club Meeting maintained in Public Log Book

Target Audience: Homeowners, Landscapers, and Property Managers						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
BMPs for carpet cleaning	Education of Homeowners of BMPs for carpet cleaning and the proper disposal of wash water	Educating Homeowners of BMPs for carpet cleaning and the proper disposal of wash water will reduce the amount surfactants in the stormwater system	Print Article in the St. Albans Monthly	Article printed in the St. Albans Monthly	Public Education through Print & Electronic Media	<ul style="list-style-type: none"> Record of Article maintained in Educational Log Book Mail in Answer to Question related to concepts conveyed in article for a prize
BMPs for auto repair & maintenance	Education of Homeowners of BMPs for storage of auto-chemicals, soaps, & waste disposal during car maintenance activities, as well as proper auto maintenance to maintain a vehicle free from leaks.	Educating the steps to take for proper usage, storage, and disposal of auto chemicals and cleaners, as well as proper vehicle maintenance, will reduce the potential of pollutants entering the stormwater system.	Distribute at least 200 brochures on the proper usage, storage, and disposal of auto chemicals & cleaners, as well as proper vehicle maintenance before 2013	Brochures on use & storage of chemicals, cleaners, & hazardous chemicals distributed	Public Education through print media	<ul style="list-style-type: none"> Education Initiative Brochure Record of brochure and maintained in Public Education Log

Target Audience: Homeowners, Landscapers, and Property Managers						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
Runoff Reduction techniques in Site Design, pervious pavement, and retention of forests and trees	Education of homeowners, landscapers, and property managers of green stormwater techniques and technologies in site design, pervious pavements, and retention of forests and trees.	Education of green stormwater practices and technologies will help increase the knowledge and awareness of homeowners, landscapers, and property managers in the design and selection of materials and technologies that will promote stormwater friendly practices during landscaping and hardscaping activities.	Conducting a green stormwater technologies and techniques stormwater workshop targeted towards homeowners, landscapers, and property mangers, with a participant survey completed after the workshop.	<ul style="list-style-type: none"> • Presenter(s) for workshop secured • Workshop Advertised • Workshop Completed • Workshop Surveys Reviewed 	Presentation during Workshop	<ul style="list-style-type: none"> • Workshop Advertisement maintained in Education Log Book • Participant Surveys Maintained in Education Log Book

Target Audience: Homeowners, Landscapers, and Property Managers						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
Stormwater Pond Maintenance	Education of Local Homeowners Association on Stormwater Pond Maintenance	Educating Homeowners in subdivisions with stormwater ponds on proper pond maintenance will increase the effectiveness and integrity of the Stormwater Pond	Completion of Stormwater Pond Maintenance Training of at least one officer of every Homeowners Associations or Neighborhood representatives in areas with a Stormwater Pond	<ul style="list-style-type: none"> • City Stormwater Educator for Stormwater Pond Maintenance Identified • Homeowner Association Representatives Contacted Regarding Training 	Training Meeting	<ul style="list-style-type: none"> • Training documents and List of Trained Participants in Education Log Book

Target Audience: Engineers, Contractors, Developers, Review Staff, & Land Use Planners						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
Technical Standards for Construction Site Sediment & Erosion Control	Education of Engineers, Review Staff, and Contractors performing engineering, construction, or review of earth disturbing construction in the City of St. Albans on West Virginia Sediment & Erosion Control Manual	In order to effectively utilize, specify, and inspect Best Management Practices that are acceptable to the West Virginia Dept. of Environmental Protection, those involved must be knowledgeable of the practices and proper application of BMPs in the WVDEP Sediment & Erosion Control BMP Manual	<ul style="list-style-type: none"> • Make WVDEP Sediment & Erosion Control BMP Manual Available to Contractors and Engineers performing Earth Disturbing Activities when obtaining a building permit. • Require that permit holder certify that they received materials and understand WV BMP Manual prior to obtaining Building Permit. 	<ul style="list-style-type: none"> • Make the WV DEP Erosion & Sediment Control BMP Manuals Available through the Storm-water Website and on CD at the Building Dept. • Create Erosion & Sediment Control Site Inspection Checklist 	<ul style="list-style-type: none"> • Education through print media 	<ul style="list-style-type: none"> • Log of Engineers, Contractors, Developers, & Land-use Planners that have received the City's Erosion & Sediment Control materials and understand use of BMPs

Target Audience: Engineers, Contractors, Developers, Review Staff, & Land Use Planners						
Subject	Measurable Goal	Justification	Means of Measurement	Milestones	Education Outreach Method	Documentation Method
<p>Runoff Reduction Techniques in site design, pervious pavement, alternative parking lot design, & retention of forests and trees</p> <p>Stormwater Treatment & Flow Control BMPs and impacts of increased flows into receiving bodies</p>	<p>Education of Engineers and Review Staff of green stormwater technologies and approaches in site and parking lot design</p> <p>Education of Engineers, Contractors, & Review Staff of Stormwater Treatment & Low Impact Development</p>	<p>Educating Engineers and review staff of practices and technologies used to reduce stormwater runoff increases the potential use of green stormwater approaches that will improve storm-water quality through the reduction of stormwater runoff coming into contact with pollutants.</p> <p>Knowledgeable professionals in LID and Stormwater Treatment Controls are essential for use of these technologies.</p>	<p>Workshops/ Presentations on subject areas held annually with a target attendance of 12 engineers, contractors, and review staff in attendance.</p>	<ul style="list-style-type: none"> • Partnership for workshop secured • Workshop held • Workshop Feedback Surveys Reviewed 	<p>Education through Presentation at Workshop</p>	<ul style="list-style-type: none"> • Workshop Advertisement maintained in Education Log Book • Participant Surveys Maintained in Education Log Book

Education Activities

Activities for May 2010 through December 2013:

- Create and maintain a Public Education Log Book to track and maintain a record of public education activities. Identify responsible party for maintaining Public Education Records.
- Create Stormwater Web Page off of the City of St. Albans Website in order to post stormwater education materials. Identify person that will maintain contact with the website administrator to update and maintain webpage with current stormwater events and activities.
- Schedule event or classroom visit to provide education on rain gardens and hold rain garden design contest for children. Contact person in responsible charge of Log Book to record information on visit.
- Create and purchase stormwater door hangers to be distributed during stormwater marking. Distribute and maintain at least 100 door hangers. Contact person in responsible charge of Log Book to record and maintain information on the distribution of door hangers.
- Create and Print Pamphlet on Household Hazardous Waste. Identify Events and Public Venues to make pamphlets available. Contact person in responsible charge of Log Book to record and maintain information on the distribution of the Household Hazardous Waste Pamphlets.
- Create and Print Water Efficient Landscaping Pamphlet. Identify Events and Public Venues to make pamphlets available. Contact person in responsible charge of Log Book to record and maintain information on the distribution of the Water Efficient Landscaping Pamphlets.
- Establish Contact and Partnership with the Coal River Watershed Organization and other organizations for participation and sponsorship of stormwater education activities.
- Create a list of topics to cover in Quarterly Stormwater Article to be published in the in St. Albans Monthly.
- Create CDs of Sediment and Erosion Control Manual, and create a Sediment & Erosion Control Inspection Checklist pamphlet. Also make available the Stormwater Pollution Prevention Plan Guidance Manual on website.
- Pet Waste Campaign: Create and Print Pet Waste Posters and Signs for Citywide Display. Run poster or article in the St. Albans Monthly. Contact person in responsible charge of Log Book to record and maintain information on the posting of the Pet Waste Poster. Contact person in responsible charge of keeping Stormwater Website Updated, and add pet waste management information.
- Create and Print Education Materials on Stormwater Pond Maintenance for training meeting to education Home Owners/Home Owners Associations on Stormwater Pont Maintenance.

- Inspect existing public education materials in public areas, and record data in Public Education Log Book. Evaluate stormwater education material available on City's stormwater webpage for needed additions or changes.
- Distribute 50 Water Efficient Landscaping Booklets at area Nurseries and related businesses.
- Create and print pamphlet on Pesticide and Herbicide Management. Identify Events and Public Venues to make pamphlets available. Contact person in responsible charge of Log Book to record and maintain information on the distribution of the pamphlets.
- Create & print education materials on the Impacts of Impervious Surfaces and conduct meeting with public on green technologies to reduce impacts impervious surfaces, such as live roofs, permeable pavers, and rain gardens. Utilize materials during workshop.
- Submit Quarterly Articles to St. Albans Monthly on Stormwater Activities or on the list of Stormwater topics.

Activities for 2014:

- Vehicle Maintenance Campaign Year: Create and print Vehicle Maintenance Posters and Pamphlets for Citywide Display. Place article in St. Albans monthly about vehicle maintenance and proper disposal of auto chemicals. Contact person in responsible charge of Log Book to record and maintain information on the posting of the Vehicle Maintenance Poster. Contact person in responsible charge of keeping Stormwater Website Updated and add vehicle maintenance information.
- Inspect existing public education materials in public areas, and record data in Public Education Log Book. Evaluate education material available on City's web page.
- Distribute 50 Water Efficient Landscaping Booklets at area Nurseries and related businesses.
- Create and print pamphlet on Material Storage. Identify events and public venues to make pamphlets available. Contact person in responsible charge of Log Book to record and maintain information on the distribution of the pamphlets.
- Schedule event or classroom visit in which a minimum of 25 activity books are to be distributed. Distribute Activity Books to children, and create a presentation or activity for visit. Create a Classroom/Event Visit verification form and quiz for visit. Collect stormwater quiz questions to track an understanding of the education material. Contact person in responsible charge of Log Book to record information on visit.
- Create & print education materials on Low Impact Development & Green Technologies for Flow Control. Utilize materials during Rain Garden/Live Roof/Green Technologies workshop. It may be beneficial to contact area businesses, local municipalities, and watershed groups such as the City of Hurricane, Charleston, Huntington, Nitro, Dunbar,

South Charleston, and the Coal River Watershed for partnerships to conduct workshops and print education materials.

- Submit Quarterly Articles to St. Albans Monthly on Stormwater Activities or on the list of Stormwater topics created. Review Entries and Draw for prizes in Stormwater Committee meeting. Display winner on the Stormwater Website and in St. Albans Monthly.

Activities for 2015:

- Illicit Discharge Detection & Elimination (IDDE) Campaign Year: Create and print IDDE Posters with Hotline Number for Citywide Display. Place article in St. Albans Monthly about vehicle IDDE Program. Contact person in responsible charge of Log Book to record and maintain information on the posting of the Vehicle Maintenance Poster. Contact person in responsible charge of keeping Stormwater Website Updated and add IDDE information.
- Create and print magnets to be distributed during Riverfest with the Stormwater Hotline number and a brochure about the Stormwater Website and IDDE.
- Inspect Existing Public Education Materials in Public Areas, and record Data in Public Education Log Book. Evaluate Education Material available on City's Website for needed additions or changes.
- Distribute 50 Water Efficient Landscaping Booklets at area Nurseries and related businesses.
- Create and Print Pamphlet on Industrial & Commercial Hot Spots. Identify events and public venues to make pamphlets available. Contact person in responsible charge of Log Book to record and maintain information on the distribution of the pamphlets.
- Schedule event or classroom visit in which a minimum of 25 activity books are to be distributed. Distribute activity books to children, and create a presentation or activity for visit. Complete classroom/event visit verification form and quiz for visit. Collect stormwater quiz questions to track an understanding of the education material. Contact person in responsible charge of Log Book to record information on visit.
- Create & print education materials on How to make a Rain Barrel. Utilize materials during Rain Barrel Workshop.
- Submit Quarterly Articles to St. Albans Monthly on Stormwater Activities or on the list of Stormwater topics created. Review Entries and Draw for prizes in Stormwater Committee meeting. Display winner on the Stormwater Website and in St. Albans Monthly.

Activities for 2016:

- Source Control Education year: Create and print posters and pamphlets on proper car washing techniques and BMPs for carpet cleaning. Place article in St. Albans monthly about Source Control BMPs. Contact person in responsible charge of Log Book to record and

maintain information on the posting/distribution of education materials. Contact person in responsible charge of keeping Stormwater Website Updated and add education materials.

- Inspect existing public education materials in public areas, and record data in public education Log Book. Evaluate education material available on City's web page for needed additions or changes.
- Distribute 50 Water Efficient Landscaping Booklets at area Nurseries and related businesses.
- Print Booklet on stormwater friendly site design. Identify events and public venues to make pamphlets available. Contact person in responsible charge of Log Book to record and maintain information on the distribution of the pamphlets.
- Schedule event or classroom visit in which a minimum of 25 activity books are to be distributed. Distribute stormwater activity books to children, and create a presentation or activity for visit. Complete Classroom/Event Visit verification form and quiz for visit. Collect stormwater quiz questions to track an understanding of the education material. Contact person in responsible charge of Log Book to record information on visit.
- Create & Print Education Materials on retention of forests and trees. Utilize materials during Tree Planting Workshop.
- Submit Quarterly Articles to St. Albans Monthly on Stormwater Activities or on the list of Stormwater topics created. Review entries and draw for prizes in Stormwater Committee meeting. Display winner on the Stormwater Website and in St. Albans Monthly.

Minimum Control Measure No. 2: Public Involvement & Participation

Ongoing public involvement through public participation on the Stormwater Committee, City Ordinance Committee, the Coal River Watershed Association, and attendance at local stormwater activities such as litter clean-ups, stormwater workshops, and stormwater drain marking is important to the success of any Stormwater Management Program. The goal of the Public Involvement and Participation Minimum Measure is to reduce or eliminate behaviors and practices that contribute to adverse stormwater impacts. Public participation in developing rate structures, stewardship programs, and other environmental activities related to stormwater help the public become familiar with stormwater program goals and educate the public on practices, technologies, and behaviors, which will likely lead to reducing and eliminating behaviors and practices that lead to impaired stormwater quality.

Best Management Practices, along with measurable goals, justification, means of measurement, implementation milestones, and documentation methods for record keeping can be found in the tables of the following pages.

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
Participation of General Public in IDDE Program & Education of Stormwater Pollutants	Marking Stormwater Inlets with Stormwater Education Markers	Identifying Catch Basins makes public more aware of keeping inlets free of pollution	<ul style="list-style-type: none"> • A minimum of 50 volunteers per year • A minimum of 25 catch basins markers per year 	<ul style="list-style-type: none"> • Stormwater Marking Begins • 50 Volunteers participated • 25 Basins Marked Per Year 	<ul style="list-style-type: none"> • Article about Stormwater Marking Program • Door Hangers • Pictures of Event on Website
Public Participation in the implementation of Green Technologies and Runoff Reduction (Porous Pavements, Rain Gardens, & Rain Water Reuse)	Stormwater Workshops on use of Green Technologies	Sponsoring hands-on workshops that give the public opportunities to implement green stormwater technologies will increase the use of these technologies city-wide	A minimum of ten participants from the City of St. Albans participate at each workshop	<ul style="list-style-type: none"> • Workshop Organization completed • Workshop held • Surveys evaluated 	<ul style="list-style-type: none"> • Record of Workshop Advertisement and photos of event maintained in Public Participation Files • Completed Surveys
General Public Participation in Source Control	Volunteer Litter Clean-Up	Litter Clean-ups promote the sense of ownership of public areas and environmental responsibility to prevent trash from entering the waterways.	A minimum of one public litter clean-up within the city in the Fall and Spring with a minimum of 50 participants	<ul style="list-style-type: none"> • Litter Clean Up Planning Complete • Litter Clean Up Completed 	<ul style="list-style-type: none"> • Record of Clean-up Advertisement maintained in Education Log Book • Public Sign in Sheet

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
General Public Participation in Source Control	Brush and Leaf Pick-up Program	Brush and Leaf pick-up prevent vegetation from entering the stormwater system causing blockages of stormwater conveyances and decreasing stormwater quality	A minimum of 15% participation of city residences per year	<ul style="list-style-type: none"> • Leaf & Brush Program Advertised • 15% of residents participated in program 	<ul style="list-style-type: none"> • Record of Pick-ups made • Advertisement maintained in Log Book
General Public Participation in Vehicle Maintenance and Source Control	Used Oil Recycling Drop Off Event	Public's participation in proper disposal methods during vehicle maintenance decreases the potential for contaminants being poured into the storm system	A minimum of 10 gallons of used oil collected during recycling event from City Residents	<ul style="list-style-type: none"> • Event Advertised • 10 gal. of used oil collected 	<ul style="list-style-type: none"> • Record of Event Advertisement maintained in Education Log Book • Participation Sign in Sheet

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
General Public Participation in Pet Waste Reduction	Pet Waste Disposal Station Use	Participation by the public in the proper disposal of pet wastes will increase stormwater quality by reducing potential fecal counts in stormwater discharge	A minimum of 200 doggie waste bags taken per year at the park. Visual Inspection of a reduction in dog waste on Park Grounds.	<ul style="list-style-type: none"> • 200 doggie bags taken • A 50% reduction in dog waste piles observed at dog park 	<ul style="list-style-type: none"> • Visual Inspection Recorded and maintained in Stormwater Log Book • Number of doggie bags placed out for public use recorded and maintained in Log Book
Public Participation in Environmental Stewardship and Runoff Reduction Techniques	Tree Planting Event	Tree Planting within the City promotes a reduction of stormwater runoff and decreases urban heat that can cause temperature increases in stormwater discharges	A minimum of 30 trees distributed annually to City residents for planting within the City.	<ul style="list-style-type: none"> • Trees obtained for program • 30 trees given to citizens for planting 	<ul style="list-style-type: none"> • Registration Cards for those taking trees • Data maintained in Log Book

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
Public Participation in Runoff Reduction Techniques and Green Stormwater Technologies	Landscaping, Pervious Pavement, and Rain Barrel Workshops	Citywide participation in the use of runoff reduction technologies decrease the volume of stormwater coming into contact with contaminants that then entering the stormwater system.	A minimum of 12 City of St. Albans residents participate in each annual workshop.	<ul style="list-style-type: none"> • Annual Workshop Topic Chosen • Possible partnerships for workshop sponsorship secured • Annual Workshop Conducted 	<ul style="list-style-type: none"> • Workshop Advertisement maintained in Log Book • Workshop Surveys maintained in Log Book
Participation of Public in procurement of the Stormwater Management Plan	Participation of Public on Stormwater Committee	Participation by the public on the procurement of the Stormwater Management Plan promotes a sense of public responsibility to the stormwater program and generates input from those receiving the stormwater program benefits.	A minimum of 3 City Residents participate on stormwater committee	<ul style="list-style-type: none"> • Three citizens from the public attended Stormwater Committee Meeting 	<ul style="list-style-type: none"> • Minutes from Stormwater Committee Meetings Maintained in Stormwater Log Book and Displayed on Web Page

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
Participation of Public in determination of funding mechanism & rates for stormwater program	Public Participation by Survey Response	Participation by the public on the in the determination of a funding mechanism and rates to support the Stormwater Program gives the public a chance to understand program goals and have input on funding sources and levels to effectively meet MS4 requirements.	Stormwater Program Progress Surveys returned from a minimum of 100 City Residents	<ul style="list-style-type: none"> Stormwater Program Progress Surveys distributed to citizens 100 surveys returned and reviewed by the Storm-water Management Committee 	<ul style="list-style-type: none"> Stormwater Progress Surveys Summary of Stormwater Surveys maintained in Log Book
Public Participation in IDDE Program and Stormwater Management Plan	Create & Maintain Telephone Hotline for Citizen Suggestions and Complaints	An identified and centralized point of contact for the public to notify City personnel of potential impacts to the stormwater system helps increase stormwater quality and address stormwater program concerns.	Customer input through stormwater hotline utilized at least five times per month by City Residents.	<ul style="list-style-type: none"> 5 complaints or suggestions received by the public over the stormwater hotline for the month 	<ul style="list-style-type: none"> Stormwater Suggestion/Complaint Log Book Maintained at Public Works Office

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
Public Participation in Stormwater Program	St. Albans Stormwater Logo Design Contest or mascot contest	Participation by the general public in the Stormwater Program promotes a sense of public ownership to carry out the stormwater program BMPs	A minimum of 50 entries submitted through a stormwater logo or mascot design contest	<ul style="list-style-type: none"> • Stormwater Logo/Mascot Contest Started • Storm-water Logo/Mascot Chosen • Stormwater Logo/Mascot digitized for use 	<ul style="list-style-type: none"> • Entries Maintained in Stormwater File • Stormwater Logo/Mascot
Public Participation in Environmental Stewardship and Source Control	Citywide Recycling and E-Waste Collection Participation	Recycling promotes environmental stewardship and decreases the potential for items to be discarded in ways that can cause blockages of stormwater conveyances and decreased stormwater quality	A city wide participation of approximately 20% of residents and businesses per year	<ul style="list-style-type: none"> • 20% participation by residents in recycling program 	<ul style="list-style-type: none"> • Annual Customer Participation Data Maintained in Stormwater Program File

Measurable Goal with Target Audience	Activity (BMP)	Justification	Means of Measurement	Milestones	Documentation Method
Public Participation in General Stormwater Awareness	Rain Garden Design Contest for School Age Children	Early education of measures the public can take to reduce their potential negative impact on stormwater quality and causes of degradation to our water bodies helps promote environmental friendly practices that become commonplace.	A minimum of 20 entries received during contest	<ul style="list-style-type: none"> • Rain Garden Education Conducted • Rain Garden Design Entries Reviewed • Contest Winners Recognized 	<ul style="list-style-type: none"> • Summary of Stormwater Contest Data maintained in Stormwater File • Winning Entries kept in Stormwater Program File
Participation in Various Subject Areas of Stormwater Education	Quiz Questions on Stormwater Education with Prize Entries	Providing the opportunity for the general public to be recognized and/or awarded for expanding their knowledge and promoting stormwater friendly practices helps implement stormwater best management practices.	A minimum of 25 correct entries received for each question.	<ul style="list-style-type: none"> • Stormwater Article with question submitted to St. Albans Monthly • Entries Reviewed • Record maintained in Public Education Log Book 	<ul style="list-style-type: none"> • Stormwater Questions and Record of Participants maintained in Stormwater File

Public Participation Activities

Activities for May 2010 through December 2013:

- Begin Stormwater Marking Program. Publicize volunteer opportunities and contact local volunteer groups such as Boy & Girl Scouts, School Environmental and Volunteer Clubs, local watershed groups and city residents to increase involvement as program continues. Record and document participation in Education Log Book and track number and area of locations marked with stormwater markers. Place information about event on Stormwater web page.
- Continue to carry out Volunteer Litter Clean-ups in spring and fall in partnership with REAP and local watershed organizations. Advertise event on web page and document participation data in Education Log Book. Possibly examine future clean-up opportunities through an adopt-a-stream/culvert/ditch program with area citizens.
- Continue citywide seasonal brush pick-ups. Publicize clean-up dates on web page and document participation and pick-up data in Education Log Book.
- Continue citywide recycling and e-waste program. Publicize recycling opportunities on web page and in St. Albans Monthly. Document annual participation in Education Log Book.
- Create and maintain a Stormwater Hotline for reporting illicit discharges, citizen complaints, and suggestions relating to the Stormwater Program. Create and maintain record of citizen reporting and responses carried out.
- Plan and carryout stormwater logo or mascot contest to St. Albans citizens. Select winning entry and have logo professionally digitized and made for Stormwater Program use. Publicize winning entry on Stormwater web page.
- Develop and distribute Public Stormwater Program Survey to obtain public input on acceptable fee rates and to provide a benchmark to measure future progress of the Stormwater Education Program. Analyze stormwater surveys and public results on the stormwater web page.
- Review entries from education articles contest, and draw from correct entries for Stormwater related prizes. Publicize winners on Stormwater Website or in following issue of St. Albans Monthly.
- Plan, advertise, and carry out a Rain Garden/Green Technologies Workshop. Contact the WV Division of Environmental Protection and other local businesses for sponsorship of program materials. Record participation data in public education log book. Advertise program sponsors. Contact local garden club or school for participation in event/possible installation of Rain Garden within the City. If rain garden is installed within City, get maintenance agreement signed with organization/owner for upkeep of garden.

- Continue Stormwater Marking Program. Inspect existing marked areas for missing markers. Publicize volunteer opportunities and contact local volunteer groups such as Boy & Girl Scouts, School Environmental and Volunteer Clubs, local watershed groups and city residents to increase involvement as program continues. Record and document participation in Education Log Book and track number and area of locations marked with stormwater markers. Place information about event on Stormwater web page.
- Continue to Carry-out Volunteer Litter Clean-ups in spring and fall in partnership with REAP and local watershed organizations. Advertise event on web page and document participation data in Education Log Book. Possibly examine future clean-up opportunities through an adopt-a-stream/culvert/ditch program with area citizens.
- Create and conduct Rain Garden Design Contest for children. Choose winning design and plan for construction.

Activities for 2014:

- Plan, advertise, and carry out a Permeable Pavers Workshop. Contact the Peerless Block, Society of Landscape Architects, and other local businesses for sponsorship of program materials and possible speakers. Record participation data in public education log book. Advertise program sponsors.
- Continue Stormwater Marking Program. Inspect existing marked areas for missing markers. Publicize volunteer opportunities and contact local volunteer groups such as Boy & Girl Scouts, School Environmental and Volunteer Clubs, local watershed groups and city residents to increase involvement as program continues. Record and document participation in Education Log Book and track number and area of locations marked with stormwater markers. Place information about event on Stormwater web page.
- Continue to conduct Volunteer Litter Clean-ups in spring and fall in partnership with REAP and local watershed organizations. Advertise event on web page and document participation data in Education Log Book. Possibly examine future clean-up opportunities through an adopt-a-stream/culvert/ditch program with area citizens.
- Continue citywide seasonal brush pick-ups. Publicize clean-up dates on web page and document participation and pick-up data in Education Log Book.
- Continue citywide recycling and e-waste program. Publicize recycling opportunities on web page and in St. Albans Monthly. Document annual participation in Education Log Book.
- Review quiz entries from St. Albans Monthly education articles, and draw from correct entries for Stormwater related prizes. Publicize winners on Stormwater Website and in following issue of St. Albans Monthly.

Activities for 2015:

- Plan, advertise, and carry out a Rain Barrel Workshop. Contact the WV Division of Environmental Protection and other local businesses for sponsorship of program materials. Record participation data in public education log book. Advertise program sponsors.
- Continue Stormwater Marking Program if not complete. Inspect existing marked areas for missing markers. Publicize volunteer opportunities and contact local volunteer groups such as Boy & Girl Scouts, School Environmental and Volunteer Clubs, local watershed groups and city residents to increase involvement as program continues. Record and document participation in Education Log Book and track number and area of locations marked with stormwater markers. Place information about event on Stormwater web page.
- Continue to Carry-out Volunteer Litter Clean-ups in spring and fall in partnership with REAP and local watershed organizations. Advertise event on web page and document participation data in Education Log Book. Possibly examine future clean-up opportunities through an adopt-a-stream/culvert/ditch program with area citizens.
- Continue citywide seasonal brush pick-ups. Publicize clean-up dates on web page and document participation and pick-up data in Education Log Book.
- Continue citywide recycling and e-waste program. Publicize recycling opportunities on web page and in St. Albans Monthly. Document annual participation in Education Log Book.
- Review entries from St. Albans Monthly education articles, and draw from correct entries for Stormwater related prizes. Publicize winners on Stormwater Website or in following issue of St. Albans Monthly.

Activities for 2016:

- Plan, advertise, and carry out a Tree Planting Workshop. Contact the Division of Natural Resources and other local businesses for sponsorship of program materials. Record participation data in public education log book. Advertise program sponsors.
- Continue Stormwater Marking Program if not complete. Inspect existing marked areas for missing markers. Publicize volunteer opportunities and contact local volunteer groups such as Boy & Girl Scouts, School Environmental and Volunteer Clubs, local watershed groups and city residents to increase involvement as program continues. Record and document participation in Education Log Book and track number and area of locations marked with stormwater markers. Place information about event on Stormwater web page.
- Continue to Carry-out Volunteer Litter Clean-ups in spring and fall in partnership with REAP and local watershed organizations. Advertise event on web page and document participation data in Education Log Book. Possibly examine future clean-up opportunities through an adopt-a-stream/culvert/ditch program with area citizens.

- Continue citywide seasonal brush pick-ups. Publicize clean-up dates on web page and document participation and pick-up data in Education Log Book.
- Continue citywide recycling and e-waste program. Publicize recycling opportunities on web page and in St. Albans Monthly. Document annual participation in Education Log Book.
- Review entries from St. Albans Monthly education articles, and draw from correct entries for Stormwater related prizes. Publicize winners on Stormwater Website or in following issue of St. Albans Monthly.

Minimum Control Measure No. 3: Illicit Discharge Detection & Elimination

Illicit discharges consist of discharges not composed entirely of stormwater such as sanitary wastewater, effluent from septic tanks, car wash wastewater, improper oil disposal, radiator flushing disposal, laundry wastewaters, spills from roadway accidents, improper disposal of paints, cleaners, auto and household hazardous wastes. These discharges can enter the MS4 system through cross connections with the wastewater system, indirect connections through cracked pipes, spills collected by drain inlet, and direct dumping. Illicit discharges result in high levels of pollutants, heavy metals, toxins, oil and grease, solvents, nutrients, viruses, and bacteria in receiving waters and can degraded water quality, threaten aquatic life and human health. As outlined on the WV NPDES General Water Pollution Control Permit Some non-stormwater discharges are exempt from the MS4 program. Exemptions include:

- Discharges from potable and non-potable sources, if dechlorinated to a concentrations of 0.1ppm or less and pH adjusted if needed, and volumetrically and velocity controlled to prevented re-suspension of sediments
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration and uncontaminated pumped ground water
- Foundation drains
- Air conditioning condensation
- Irrigation water from agricultural sources
- Springs
- Water from crawl space pumps and footing drains
- Flows from riparian habitats and wetlands
- Non- stormwater discharges covered by another NPDES permit
- Discharges or flows from fire fighting activities
- Street, parking lot, and sidewalk wash water used for dust control and routine external building wash down, that does not utilize detergents. Street sweeping shall be performed at construction sites prior to street washing.
- Discharges from lawn watering and other irrigation runoff

Under this Minimum Control Measure, the City of St. Albans will be required to develop, implement, and enforce an Illicit Discharge Detection and Elimination (IDDE) program consisting of detailed MS4 storm system mapping, implementing and enforcing ordinances to prohibit non-stormwater discharges with enforcement measures, educating City employees on detection and response of illicit discharge detections and complaints, a spill prevention/response program, and a detection program. The detection/elimination program should consist of identifying hot spot areas and problem areas based on visual inspection, public complaint response, water sampling, source locating utilizing dye or smoke testing, and elimination/correction of illicit connection/source.

The tables on the following pages outlines the Best Management Practices, measurable goals, justification of practice, means of measurement, activity milestones, and documentation/record keeping for the Illicit Discharge Detection and Elimination Minimum Measure. It is strongly recommended that this minimum control measure utilize Geographic Information System Mapping to map, organize and track field data.

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Implementation and review of IDDE Ordinances meeting requirements of the NPDES General Stormwater Permit and identify parties that will implement enforcement actions for violation of ordinances	IDDE Ordinance	Ordinances to prohibit illicit discharges and unauthorized connections to the stormwater system are needed to be able to take enforcement actions against individuals and businesses polluting stormwater quality.	<ul style="list-style-type: none"> • Completion of Ordinances • Identification and Training of Parties that will enforce ordinances 	<ul style="list-style-type: none"> • Ordinance Implemented • Ordinance Reviewed • Staff Trained 	<ul style="list-style-type: none"> • Ordinance • Review Procedures outlined in Stormwater Manual • Staff Training Records
Stormwater Mapping with means to update on an ongoing basis developed	Stormwater Mapping	In order to maintain an effective IDDE Program the system conveyances, connections, and components must be identified.	Percent completion of stormwater mapping	<ul style="list-style-type: none"> • Outfalls Mapped • Conveyances Mapped • Catch Basins Mapped • Working Map Completed • Annual Map Review Completed 	<ul style="list-style-type: none"> • Mapping • Review Procedures outlined in Stormwater Manual

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Identifying Pollutants of Concern in the City's Stormwater System and tracking possible sources	Water Quality Testing	In order to effectively implement education programs that target specific pollutants and reduction activities, treatment strategies, and eliminate possible illicit discharge connections that affect our stormwater system, the pollutants must be identified.	<ul style="list-style-type: none"> • A minimum of one water body field assessed per year, after 2010 • Prioritized List Developed • Sampling Program Complete 	<ul style="list-style-type: none"> • MS4 System Streams and Conveyances Prioritized for Water Quality Testing based on potential for pollution • Pollution from MS4 discharge point Characterized • Stormwater Sampling Program Schedule Completed 	<ul style="list-style-type: none"> • Water Quality Sampling results kept in Stormwater File • Prioritized List Developed • Stormwater Sampling Program Documented
Create an effective means of communication for the public to report illicit discharges, actions that violate IDDE ordinances, blockages, and spills	Establishment of a Stormwater Hotline	Effective communication between the citizens and City personnel, helps increase stormwater quality through addresses IDDE issues	<ul style="list-style-type: none"> • Number of complaints/suggestions/reports submitted through the hotline per month 	<ul style="list-style-type: none"> • Stormwater Hotline Established • Stormwater Hotline obtained Public Participation Goals 	<ul style="list-style-type: none"> • Stormwater Suggestion/Complaint Log Book Maintained at Public Works Office

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Standardize Procedures for recording and responding to IDDE issues and review of the IDDE Program	Procedures Established for IDDE Program	To track the progress of the IDDE program, procedures and records must be developed and maintained for review	<ul style="list-style-type: none"> • Program in full effect by the end of December 2013 • Percent of all IDDE complaints/ concerns address within 48 hrs 	<ul style="list-style-type: none"> • Procedures Established in readily useable form for public employees • Procedures fully implement and in use 	<ul style="list-style-type: none"> • Stormwater Procedures Documents • Review Procedures documented
Establish a staff training program for Illicit Discharge Detection and Elimination	Staff Training on IDDE Response Procedures	City Personnel must be knowledgeable on the IDDE program and procedures to effectively carryout the procedures safely and efficiently.	<ul style="list-style-type: none"> • Percent of all City Personnel receiving stormwater IDDE training • Percent of City Personnel regularly involved in IDDE program activities receive annual stormwater training for IDDE 	<ul style="list-style-type: none"> • Effective Training Program Schedule Developed • Training and Certification Developed • Initial Training Conducted for 90% of City employees involved with IDDE 	<ul style="list-style-type: none"> • Training Schedule Document • Training Records Maintained

Illicit Discharge Detection & Elimination Activities

Activities for May 2010 through December 2013:

- Draft and implement ordinance(s) to prohibit illicit discharges (with applicable exceptions), unauthorized connections, and direct dumping into the Stormwater System. The ordinance shall enable City personnel to take escalating enforcement actions against individuals and businesses polluting stormwater quality. Procedures shall be outlined for detecting/eliminating/correcting illicit discharges and graduated fining/enforcement actions for ordinance violations, as well as procedures for an annual review of the ordinance and procedures.
- Build upon existing stormwater mapping and create a comprehensive overall stormwater system map of the watershed area that discharges into the City MS4 System. Items such as stormwater outfalls, conveyances, drain inlets, waterways, area hot spots, authorized connections, structural stormwater BMPs owned, operated or maintained by the City of St. Albans. The stormwater mapping shall be maintained at City Hall and the local Public Works Office for public viewing. The maps has be submitted to the West Virginia Department of Environmental Protection, if submitted by paper they shall be at a scale of 1: = 500', on page sized 24" x 36" or 22" x 26" and folded to 8.5" x 11". Procedures shall be documented for an annual review of the mapping and to make additions to the mapping as needed.
- Create and document procedures of the ongoing IDDE program for maintaining records, detecting, inspecting, collecting and analyzing water samples, implementing escalating enforcement actions, notifying property owners of violations, responding to and removing non-stormwater discharges, spills, illicit connection and illegal dumping into the MS4, as well as procedures for opening manholes, utilizing cameras, and smoke testing, and employee training. Any complaints, reports, or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping shall be investigates within 15 days. Urgent and severe emergencies shall be investigated immediately. The City shall utilize the Illicit Discharge Detection and Elimination: Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004, for screening procedures.
- Create a prioritized list of City hot spots that have a history of spills or at a high risk of causing stormwater contamination shall be made. Create plan to conduct field assessment activities of area hot spots, outfalls, and detecting illicit discharges.
- Create and maintain City Personnel Stormwater Training Log Book/File to maintain stormwater training records/certification of City Personnel.
- Create opportunities for initial employee training related to the IDDE program for upcoming year and create a test that will ensure comprehension the training. Create training session verifications sheets for training conducted outside of annual workshop sessions. A City IDDE Training Certification shall be developed for those that receive training through

passage of the test. Annual stormwater training shall be conducted through annual distribution of IDDE education with paycheck/paycheck stub.

- Conduct Annual Review of IDDE Ordinances. Record documentation of review and place in Stormwater Program Files.
- Continue to create a comprehensive overall stormwater system map of the watershed area that discharges into the City MS4 System. Items such as stormwater outfalls, conveyances, drain inlets, waterways, area hot spots, authorized connections, structural stormwater BMPs owned, operated or maintained by the City of St. Albans. Conduct annual review of the mapping and to make additions to the mapping as needed.
- Conduct review of IDDE program procedures and records to measure programs progress and response time.
- Conduct field assessment of one waterbody, and utilize prioritized hot spot list to conduct visual field assessments. Record and maintain inspection records and any follow-up measures taken as a result of the assessment in a Stormwater File
- Review City Personnel Stormwater Training Log Book/File to identify employees involved with the IDDE program on a regular basis that require IDDE program training. Conduct annual training.

Activities for 2014:

- Conduct Annual Review of IDDE Ordinances. Record documentation of review and place in Stormwater Program Files.
- Continue to create a comprehensive overall stormwater system map of the watershed area that discharges into the City MS4 System. Items such as stormwater outfalls, conveyances, drain inlets, waterways, area hot spots, authorized connections, structural stormwater BMPs owned, operated or maintained by the City of St. Albans. Conduct annual review of the mapping and to make additions to the mapping as needed.
- Conduct review of IDDE program procedures and records to measure programs progress and response time.
- Conduct field assessment of one waterbody, and utilize prioritized hot spot list to conduct visual field assessments. Record and maintain inspection records and any follow-up measures taken as a result of the assessment in a Stormwater File
- Review City Personnel Stormwater Training Log Book/File to identify employees involved with the IDDE program on a regular basis that require IDDE program training. Conduct annual training.

Activities for 2015:

- Conduct Annual Review of IDDE Ordinances. Record documentation of review and place in Stormwater Program Files.
- Continue to create a comprehensive overall stormwater system map of the watershed area that discharges into the City MS4 System. Items such as stormwater outfalls, conveyances, drain inlets, waterways, area hot spots, authorized connections, structural stormwater BMPs owned, operated or maintained by the City of St. Albans. Conduct annual review of the mapping and to make additions to the mapping as needed.
- Conduct review of IDDE program procedures and records to measure programs progress and response time.
- Conduct field assessment of one waterbody, and utilize prioritized hot spot list to conduct visual field assessments. Record and maintain inspection records and any follow-up measures taken as a result of the assessment in a Stormwater File
- Review City Personnel Stormwater Training Log Book/File to identify employees involved with the IDDE program on a regular basis that require IDDE program training. Conduct annual training.

Activities for 2016:

- Conduct Annual Review of IDDE Ordinances. Record documentation of review and place in Stormwater Program Files.
- Conduct annual review of the MS4 mapping and to make additions to the mapping as needed.
- Conduct review of IDDE program procedures and records to measure programs progress and response time.
- Conduct field assessment of one waterbody, and utilize prioritized hot spot list to conduct visual field assessments. Record and maintain inspection records and any follow-up measures taken as a result of the assessment in a Stormwater File
- Review City Personnel Stormwater Training Log Book/File to identify employees involved with the IDDE program on a regular basis that require IDDE program training. Conduct annual training.

Minimum Control Measure No. 4: Controlling Runoff From Construction Sites

Sediment has been found to be the most widespread pollutant that affects rivers and streams, and can be caused by agricultural and urban runoff, construction activities, and forestry. Construction activities have sediment runoff rates typically 10 to 20 times greater than agricultural land runoff and 1,000 to 2,000 times greater than runoff from forests. Sediment and other construction site pollutants such as oil, grease, concrete wash water, paint, construction chemicals, fertilizer, debris, and sanitary wastes found in stormwater runoff can cause physical, chemical, and biological harm to aquatic habitats through causing chemical and biological changes or by requiring dredging of streams and rivers to remove sediment. (Stormwater, 2005)

It is required that ordinances be developed requiring construction projects with soil disturbance of one or more acres to submit a storm water pollution prevention plan outlining sediment and erosion control Best Management Practices. The practices shall be utilized during construction in order to minimize erosion of construction site soils and the discharge of sediment into the stormwater system. Stormwater pollution prevention plans shall be review and approved by the City prior to construction activities and shall be inspected for compliance. The City shall formally outline these procedures in an Erosion and Sediment Control for Construction Site Runoff Program.

The following tables outline the measurable goals, Best Management Practices, justification, means of measurement, milestones, and documentation/record keeping for the Illicit Discharge Detection and Elimination Minimum Measure.

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Implement and Enforce Construction Site Runoff Ordinances	Ordinances and Enforcement for Sediment and Erosion Control, and other wastes such as oil and grease found at construction sites	Sediment is the most wide spread pollutant of water bodies and soil disturbing activates from construction site post the greatest concentration of sediment in stormwater runoff.	<ul style="list-style-type: none"> • Inspections of applicable construction sites conducted and Owner made aware of needed corrective measures and violations within 48 hrs. 	<ul style="list-style-type: none"> • Ordinance effective • Corrective and Violation Letter Templates Created 	<ul style="list-style-type: none"> • Ordinance • Corrective and Violation Notification Records
Educate all people involved in earth disturbing activities requiring a building permit on Sediment & Erosion Control BMPs	Education and Certification of Knowledge of the WV DEP Sediment & Erosion Control Manual	Those involved in soil disturbing activities and in the inspection of soil disturbing activities should be knowledgeable of the proper use and installation of controls acceptable by the WV DEP, in order to effective prevent the suspension of sediment in stormwater runoff.	<ul style="list-style-type: none"> • 100% of building permit holders receive stormwater BMP Manual CD and sign off on understanding of Sediment and Erosion control manual 	<ul style="list-style-type: none"> • Stormwater Site Registration Form Created and in use • Sediment and Erosion Control Manual CDs created • Statement of understanding created and in use 	<ul style="list-style-type: none"> • Stormwater Site Registration Records • Application with signature area verifying understanding of WV DEP Sediment and Erosion Control Manual

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Require all projects within the City, with earth disturbing activities greater than one acre to submit a SWPPP for review plan & determine procedure and adequate funding mechanism to cover review and inspection.	Stormwater Pollution Prevention Plan Submittal and Site Plan Review	A Stormwater Pollution Prevention Plan creates a means to identify needed controls during construction phases in order to minimize erosion and sediment. It also enables City authorities to inspect and ensure that proper controls are utilized and installed correctly during construction activities.	<ul style="list-style-type: none"> • Procedures completed for registration and inspection of construction sites with soil disturbing activities • SWPPP submittal for 100% of applicable construction sites 	<ul style="list-style-type: none"> • Procedures documented • 100% of applicable construction sites have approved plan in place • Adequate funding budgeted for inspection and review program 	<ul style="list-style-type: none"> • Stormwater Construction Site Registration • Submitted/ Approved Stormwater Pollution Prevention Plans for area construction sites
Implement inspection procedures and regularly inspected all construction sites to ensure compliance with ordinances and with submitted SWPPP	Inspection of Sediment & Erosion Control BMPs on construction sites within the City	The only way to ensure compliance with submitted SWPPPs is to regularly inspect sites and review owner's daily BMP inspection reports for proper installation and maintenance of BMPs.	<ul style="list-style-type: none"> • 100% of sites with current SWPPPs inspected by means outlined in Inspection Procedures documents 	<ul style="list-style-type: none"> • Inspection Record Forms Completed • Inspection Procedures Documented 	<ul style="list-style-type: none"> • Inspection Records and Procedures
Maintain a record of construction sites with SWPPPs.	Record of applicable construction sites with current SWPPP	Maintaining a record of construction sites	<ul style="list-style-type: none"> • 100% of sites with current SWPPPs recorded and maintained 	<ul style="list-style-type: none"> • Means of site recording in effect 	<ul style="list-style-type: none"> • Construction Site Records

Activities for May 2010 through December 2013:

- Create Construction Site Runoff Ordinance
- Create Stormwater Site Registration Form informs those applying for a building permit of the City's and State's requirements regarding permits for Construction activities that involve disturbing soil
- Begin to create policies and procedures for registration and inspection of construction sites with earth disturbing activities.
- Begin to evaluate responsible party for review of Stormwater Pollution Prevention Plans (SWPPP) and how to obtain adequate funding for inspection and review program.
- Establish an authority for receipt and consideration of comments and information submitted by the public
- Implement Construction Site Runoff Ordinance
- Implement the use of a Stormwater Site Registration for those applying for a Building Permit
- Create CDs of the WV DEP Sediment and Erosion Control Manual and the EPA Guidance Document for creation of a Stormwater Pollution Prevention Plan for Construction Sites

Activities for 2014:

- Incorporate statement of understanding for building permit verifying understanding of WV DEP Sediment and Erosion Control Manual
- Check the inventory of Educational CDs and replenish as needed.
- Create Corrective and Violation Letter Templates for use during the inspection of sites with a Stormwater Pollution Prevention Plan
- Create Inspection Sheets or Inspection Brochure for conducting site inspections related to sediment and erosion controls
- Determine responsible party for review of Stormwater Pollution Prevention Plans and means of adequate funding for inspection and review program.
- Create a database or GIS system maintain records of all construction sites with SWPPP

Activities for 2015 and 2016:

- Conduct annual review of Construction Site Runoff Ordinance and related procedures
- Check the inventory of Education CDs and replenish as needed. Evaluate other educational materials available for purchase
- Evaluate budgeting for adequate funding of inspection and review of SWPPP
- Review database or GIS system to ensure records of all construction sites with SWPPPs are complete and up-to-date

Minimum Control Measure No. 5: Controlling Runoff from New Development & Redevelopment

Under Minimum Measure No. 5, a program shall be created that will develop, assess, implement, and enforce the reduction of stormwater runoff pollution from New Developments and Redevelopments that create a soil disturbance of once acre or greater or are less than one acre but are a part of a larger common plan of development or sale. The program must increase groundwater recharge of stormwater runoff where and when applicable and must protect the physical, chemical, biological integrity of the receiving waters through utilizing watershed protection elements and site/neighborhood design standards.

In addition to developments/ redevelopments with a soil area disturbance of one acre or greater, when public streets and parking lots greater than 5000 square feet are modified or reconstructed runoff reduction practices shall be included in the design work. Procedures for inventory and tracking of best management practices implemented for stormwater runoff control in the new and re-developments shall be developed, as well as an enforcement and response plan to ensure that the best management practices are properly maintained.

As part of this Minimum Control Measure a Street/Parking design Assessment must be conducted by July of 2012 that includes recommendations and proposed schedules for incorporating policies and standards into applicable documents and procedures to maximize vegetation and minimize impervious cover associated with parking lots and street.

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Impervious Surface Minimization	Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.	Minimizing the amount of impervious surfaces within the city decreases the volume of surface runoff and reduces the potential of negative thermal impacts to receiving waters.	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Review Records
Draft and Adopt Ordinance	Ordinance and enforcement of new and re-development projects that result in a land disturbance greater than or equal to 1 acre to maintain the first inch of rainfall onsite through LID or other stormwater Best Management Practices	Implementing LID and other BMPs to manage the first inch of rain onsite during development/ redevelopment phase reduces the potential of negative impacts to receiving waters from stormwater runoff.	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Stormwater Site Retention Calculations • Review Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
<p>Operation and Maintenance Agreements Completed for Structural BMPs within the MS4 system.</p>	<p>Develop long-term operation and maintenance agreements for structural BMPs and possibly require operation and maintenance clause of structural BMPs in HOA documents and/or sales of property documents</p>	<p>BMPs are only effective as long as they are properly maintained and operated correctly. In order to ensure this is done, not at the City's expense, O&M agreements shall be made upfront for the operation and maintenance of BMPs.</p>	<ul style="list-style-type: none"> • Operation and Maintenance Agreements secured for 100% of Structural BMPs new/ redevelopment projects before construction 	<ul style="list-style-type: none"> • Ordinance in effect • First agreement secured 	<ul style="list-style-type: none"> • Record of Operation and Maintenance Agreements maintained in Stormwater Files • Ordinance
<p>Create, implement, and enforce ordinance to preserve, protect, create and restore ecologically sensitive areas (i.e. riparian corridors, headwaters, floodplains and wetlands)</p>	<p>Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.</p>	<p>Preserving, protecting, and creating areas such as riparian corridors, headwaters, floodplains, and ecosystems is important to maintaining a diverse aquatic ecosystem for aquatic life to thrive.</p>	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Review Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Create, implement and enforce ordinance to implement Stormwater Mgt. practices that reduce thermal impacts to streams, including requiring vegetative buffers and disconnecting discharges from impervious surfaces.	Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.	Minimizing the amount of impervious surfaces within the city decreases through use of vegetative buffers, rain gardens, and bio-retention swales to disconnect discharges from directly entering streams from impervious surfaces reduces the potential of negative thermal impacts to receiving waters.	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Review Records
Create, implement and enforce ordinance avoid or prevent hydro-modification affecting streams and other water bodies caused by development	Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.	Urban development can cause hydro-modification which increases the volume of runoff from watershed and peak runoff rates, resulting in an increase of stormwater pollution to existing water bodies.	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Pre- and Post-Runoff Calculations for applicable developments • Review Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Create, implement and enforce ordinance that implements standards to protect trees and other vegetation with important evapo-transpirative qualities	Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.	Maintaining mature trees and vegetation areas provide greater rain infiltration within the urban watershed and prevented hydromodification.	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Review Records
Create, implement and enforce ordinance that implements policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils	Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.	It is importation to maintain natural soil properties indigenous to the area to prevent hydromodification and changes to existing sensitive aquatic ecosystems.	<ul style="list-style-type: none"> • 100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance 	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Review Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
<p>Develop and implement ordinance requiring applicable treatment of stormwater runoff before infiltration into MS4 system, require conveyance of stormwater to NPDES permitted wastewater treatment facility or via a license waste hauler to a permitted treatment and disposal facility.</p>	<p>Ordinances, Enforcement, and incorporation into planning documents to reduce pollutants in post-construction runoff in new development and redevelopment projects that may result in potential hot spot for high pollutant loadings.</p>	<p>Areas that are potential hotspots and are at high risk of discharging high pollutant loadings into the stormwater system can have a detrimental effect on sensitive aquatic ecosystems if discharges occur. It is more cost efficient to install means of addressing this risk during development/re-development phase than to clean-up discharges and install prevention technology during future stormwater permit cycles.</p>	<p>100% of new/re-development projects resulting in soil disturbance in compliance with implemented ordinance</p>	<ul style="list-style-type: none"> • Ordinance in effect • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Review Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Develop and Implement Procedures for Plan Review, approval, and enforcement of ordinances	Plan Review, Approval, and enforcement of new development and redevelopment projects that result in a land disturbance greater than or equal to 1 acre.	Plan review procedures must be developed to ensure receiving, approving, and reviewing all Stormwater Site Applications for proper compliance with ordinances.	100% of all applicable construction sites go through the review process and comply with ordinances before approved, on or after July 1, 2014.	<ul style="list-style-type: none"> • Procedures developed and documented • Applications, SWPPP, & Review docs maintained for a period of one year 	<ul style="list-style-type: none"> • Documented Plan Procedures • Stormwater Site Registration Applications • Approved SWPPPs • Review Records
Develop Ordinance and Implement Procedures for Plan Review, approval, and enforcement of ordinances.	Ordinances, Enforcement, and incorporation into planning documents the implementation of runoff reduction measures for the modification/ reconstruction of parking lots/streets greater than 5000 square feet but less than one acre.	Plan review procedures must be developed to ensure receiving, approving, and reviewing all Stormwater Site Applications for proper compliance with ordinances.	100% of all applicable modification/ reconstruction projects for parking lots/ streets go through the review process and comply with ordinances before being approved for construction, on or after July 1, 2014.	<ul style="list-style-type: none"> • Procedures developed and documented • Review procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Ordinance • Applicable planning documents • Runoff Reduction Calculations with Stormwater Site Application • Review Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Create and maintain database or geographical information system.	Inventory and Tracking of Best Maintenance Practices employed at development and redevelopment projects.	In order to best maintain records on BMPs and associated O&M activities in an organized and readily inspectable fashion data should be tracked and inventoried in a database or GIS system.	100% of all BMPs inventoried and tracked via database or GIS system by July 2015.	<ul style="list-style-type: none"> • Database or GIS created • Tracking procedures in place and successfully implemented for a period of one year 	<ul style="list-style-type: none"> • Documented Tracking and Inventory Procedures • Database or Geographical Information System
Develop and enforce response plan to ensure stormwater BMPs are maintained.	Inspection and Enforcement of stormwater BMPs records relating to development/ redevelopment projects.	To ensure proper operation of BMPs to inspections shall be required and enforcement of ordinances relating to the operation and maintenance of BMPs made.	80% of inventoried BMPs maintained properly during annual inspection.	<ul style="list-style-type: none"> • Response Procedures Documented • Response Procedures effectively in place for a period of one year. 	<ul style="list-style-type: none"> • Response Plan Procedures Document • Inspection Records • Violation/ Enforcement Letters

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Develop Standardized Reporting Forms to document annual compliance with the New Development/redevelopment runoff control Minimum Measure	Progress Reporting in Annual Stormwater Report	In order to documented annual compliance with the New/Re-development runoff control minimum measure the City of St. Albans must submit reporting per WV General NPDES Water Pollution Control Permit Requirements	<ul style="list-style-type: none"> • First progress reporting submitted on or before July 2015 	<ul style="list-style-type: none"> • Standardized Reporting Forms developed • First reporting form submitted with annual report 	<ul style="list-style-type: none"> • Annual Report Post Construction Runoff Control Data
Develop a report assessing the current street design guidelines and parking requirements.	Street/Parking Design Assessment	The Street/Parking Design Assessment will be utilized during the next permit cycle and is required under the WV General NPDES Pollution Control Permit	<ul style="list-style-type: none"> • Submittal of the Street/Parking Design Assessment in the Annual Report 	<ul style="list-style-type: none"> • Street/Parking Design Assessment Conducted • Street/Parking Design Assessment Submitted 	<ul style="list-style-type: none"> • Street/Parking Design Assessment Report • Guidelines and Parking Requirements Documents

Activities for May 2010 through the end of 2013:

- Begin to create ordinance, procedures, and necessary review documents for the related to the Minimization of Impervious Surfaces
- Begin to create ordinance, procedures, and necessary review documents for the related to the preserving, protecting, creating, and restoring ecologically sensitive areas
- Begin to create ordinance, procedures, and necessary review documents for the related to the reduction of thermal impacts to streams
- Begin to create ordinance, procedures, and necessary review documents for the related to the avoidance or prevention of hyrdo-modification affecting streams and other water bodies
- Begin to create ordinance, procedures, and necessary review documents for the related to the implementation of standards to protect trees and other vegetation with important evapo-transpirative qualities
- Begin to create ordinance, procedures, and necessary review documents for the related to the protection of native soils, prevention of top soil stripping, and prevention of the compaction of soils
- Begin to develop a report assessing the current street design guidelines and parking requirements

Activities for 2014:

- Implement ordinance, procedures, and necessary review documents for the related to the Minimization of Impervious Surfaces
- Implement ordinance, procedures, and necessary review documents for the related to the preserving, protecting, creating, and restoring ecologically sensitive areas
- Implement ordinance, procedures, and necessary review documents for the related to the reduction of thermal impacts to streams
- Implement ordinance, procedures, and necessary review documents for the related to the avoidance or prevention of hyrdo-modification affecting streams and other water bodies
- Implement ordinance, procedures, and necessary review documents for the related to the implementation of standards to protect trees and other vegetation with important evapo-transpirative qualities
- Implement ordinance, procedures, and necessary review documents for the related to the protection of native soils, prevention of top soil stripping, and prevention of the compaction of soils
- Submit report assessing the current street design guidelines and parking requirements

Activities for 2015:

- Begin to create ordinance to require Operation and Maintenance agreements for Structural BMPs within the MS4 System that conforms to the requirements on page 17 of the WV NPDES General Water Pollution Control Permit

- Begin to create ordinance, procedures, and necessary review documents related to new and re-development projects that results in a land disturbance greater than or equal to 1 acre to maintain the first inch of rainfall onsite through LID or other Stormwater BMPs
- Begin to create ordinance, procedures, and necessary review documents for the related to requiring treatment of stormwater runoff before infiltration into the MS4 system, requiring conveyance of stormwater to NPDES permitted wastewater treatment facility, or requiring license waste hauler to a permitted treatment and disposal facility from new or re-development projects that may result in potential hot spots for high pollutant loadings
- Begin to create ordinance, procedures, and necessary documents for plan and calculation review, SWPPP documents, and record keeping for new and re-development projects disturbing a soil are of 1 acre or greater.
- Begin to create and maintain a database or GIS for inventory and tracking of BMPS employed at development and redevelopment projects.
- Begin to develop response and inspection plan to ensure stormwater BMPs are maintained
- Begin to develop standardized reporting forms to document annual compliance with the new and redevelopment runoff control minimum measure
- Begin to create ordinance, procedures, and necessary review documents related to the modification/reconstruction of parking lots/streets greater than 5000 square feet to comply with runoff reduction measures

Activities for 2016:

- Implement ordinance to require Operation and Maintenance agreements for Structural BMPs within the MS4 System that conforms to the requirements on page 17 of the WV NPDES General Water Pollution Control Permit
- Implement ordinance, procedures, and necessary review documents related to new and re-development projects that results in a land disturbance greater than or equal to 1 acre to maintain the first inch of rainfall onsite through LID or other Stormwater BMPs
- Implement ordinance, procedures, and necessary review documents for the related to requiring treatment of stormwater runoff before infiltration into the MS4 system, requiring conveyance of stormwater to NPDES permitted wastewater treatment facility, or requiring license waste hauler to a permitted treatment and disposal facility from new or re-development projects that may result in potential hot spots for high pollutant loadings
- Implement ordinance, procedures, and necessary documents for plan and calculation review, SWPPP documents, and record keeping for new and re-development projects disturbing a soil are of 1 acre or greater.
- Implement and maintain a database or GIS for inventory and tracking of BMPs employed at development and redevelopment projects.
- Begin to develop response and inspection plan to ensure stormwater BMPs are maintained
- Implement the use of standardized reporting forms to document annual compliance with the new and redevelopment runoff control minimum measure.
- Implement ordinance, procedures, and necessary review documents related to the modification/reconstruction of parking lots/streets greater than 5000 square feet to comply with runoff reduction measures

Minimum Control Measure No. 6: Pollution Prevention & Good Housekeeping

The ultimate goal of Minimum Measure No. 6- Pollution prevention and Good Housekeeping is to prevent and reduce polluted runoff from City owned facilities, lands, and right-of-ways. This minimum measure also includes the implementation of an Operation and Maintenance Program to include procedures to protect water quality during maintenance and operation activities, and an educational training program to educate City employees and make them aware of how their various job activities can affect Stormwater Quality. The City is to begin implementing the following measurable goals within the first year of the approval of the Stormwater Management Plan.

It is important that City personnel set a good example to the public through the promotion of behaviors and use of Best Management Practices that support pollution reduction of stormwater quality.

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Develop and implement ongoing training program for City employees whose construction, operations or maintenance job functions may impact stormwater quality	Employee Stormwater Training	In order to have a successful stormwater management program employees who's job functions affect stormwater quality must be knowledgeable on the good housekeeping procedures and applicable Best Management Practices	A minimum of 85% of all employees receive stormwater training within one year of the MS4 Management Plan Approval	<ul style="list-style-type: none"> • Training Session Conducted • 85% of the employees educated 	<ul style="list-style-type: none"> • Training program documents • Employee education records
Develop and establish Maintenance procedures for all municipal facilities	O & M Program that incorporated Good Housekeeping Components	In order to operate and maintain a successful operation and maintenance program with good housekeeping components, procedures should be established so that activities can be recorded, inspected, and consistently carried out.	Maintenance manual completed for employee used by 2014	<ul style="list-style-type: none"> • Draft maintenance manual completed • Maintenance manual in effect for a period of one year 	<ul style="list-style-type: none"> • Maintenance Manual • Maintenance Records

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Establish Annual Inspection Schedule and perform inspections to verify maintenance procedures are being carried out properly.	O & M Program that incorporated Good Housekeeping Components	Inspection should be performed on a consistent basis in order to ensure that developed O&M procedures are being carried out properly and to identify any changes that must be made to adequately protect stormwater quality.	<ul style="list-style-type: none"> • Complete the Annual Inspect Schedule by the end of 2013 • Conduct facilities inspection by July 2014 	<ul style="list-style-type: none"> • Inspection Schedule Completed 	<ul style="list-style-type: none"> • Inspection Schedule • Completed Inspection Forms
Development of Procedures for Record Keeping and Tracking Inspection and Maintenance at all Municipal Facilities	O & M Program that incorporated Good Housekeeping Components	Records of Inspections should be recorded and tracked to measure progress of the Stormwater Operation and Maintenance Program at Municipal Facilities and for review during possible inspection by the EPA or WVDEP.	<ul style="list-style-type: none"> • Inspection forms developed by December 2013 • Procedures for records keeping, tracking, and inspection completed by December 2013 	<ul style="list-style-type: none"> • Inspection forms developed • Procedures and polices for record keeping, tracking, and inspection developed 	<ul style="list-style-type: none"> • Polices and Procedural documents • Records and inspection forms

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Vehicle Repair, Maintenance, and washing	Procedures and/or policies should be developed to minimize pollution associated with vehicle repair, maintenance, and washing, which can cause pollution that can impair stormwater quality	<ul style="list-style-type: none"> • Policies and procedures implemented on or before December 2014 	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Fertilizer, pesticide, and herbicide application including nutrient management and integrated pest management plans	Procedure and/or policies should be developed to minimize pollution from improper fertilizer, pesticide, and herbicide application, which can cause pollution that can impair stormwater quality.	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Sediment and Erosion Control	Procedures and/or policies should be developed to minimize pollution associated erosion and sediment in stormwater runoff, which can cause pollution that can impair stormwater quality	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Landscape maintenance and vegetation disposal	Procedures and/or policies should be developed to minimize pollution associated with leaf and brush maintenance, which can cause pollution that can impair stormwater quality	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Trash Management	Procedures and/or policies should be developed to minimize pollution associated with litter and solid wastes, which can cause pollution that can impair stormwater quality	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Building exterior cleaning and maintenance	Procedures and/or policies should be developed to minimize pollution associated with exterior building wash down and maintenance which can cause pollution that can impair stormwater quality	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Chemical and material storage	Procedures and/or policies should be developed to minimize potential pollution associated with chemical and material storage, which can cause pollution that can impair stormwater quality	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents
Establish and implement policies and procedures to reduce the discharge of pollutants in stormwater runoff from all City owned lands, right-of-ways and facilities.	Street Sweeping and inlet/catch basin cleaning	Procedures and/or policies should be developed to for street sweeping and inlet/catch basin cleaning to maximize proper functionality of the MS4 system and reduce pollution from entering the MS4 system.	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents

Measurable Goal	Best Management Practice	Justification	Means of Measurement	Milestones	Documentation Method
Stormwater Discharge sampling from publically owned treatment works and maintenance garages	Industrial stormwater coverage for Municipal Operations Sampling	Industrial facilities are potential hot spots for stormwater pollution and discharges shall be monitored for compliance of applicable water quality standards.	Policies and procedures implemented on or before December 2014	<ul style="list-style-type: none"> • Policies and procedures implemented 	<ul style="list-style-type: none"> • Ordinances • Policies and procedures documents

Activities for May 2010 through December 2013:

- Begin City-wide departmental listing of stored materials. Create standardized form for locations, average quantity, state of substance, hazards related to material, and spill procedures.
- Begin documenting operation procedures at City Departments, review procedures, compile into Stormwater Operations Manual with Stormwater Best Management Practices incorporated into procedures.
- Conduct Stormwater Training, set a schedule, and create ongoing training documents. Create, records, and maintain Stormwater Training sheets and attendance sheets in stormwater files.
- Begin to create procedures and policies relating to Sediment and Erosion Control, Trash Management, Building Exterior Maintenance, Street Cleaning, Material Storage, and Vehicle Maintenance

Activities for 2014:

- Conduct first facility inspection to ensure compliance with operational BMPs
- Continue to create and begin to implement procedures and policies relating to Sediment and Erosion Control, Trash Management, Building Exterior Maintenance, Street Cleaning, Material Storage, and Vehicle Maintenance
- Hold annual employee training and review employee training records

Activities for 2015:

- Conduct a review of the database or GIS File to track and document completed maintenance activities.
- Fully implement procedures and policies relating to Sediment and Erosion Control, Trash Management, Building Exterior Maintenance, Street Cleaning, and Material Storage
- Conduct annual Facilities Inspection for compliance with Operation and Maintenance policies and procedures
- Hold annual employee training and review employee training records

Activities for 2016:

- Conduct a review of the database or GIS File to track and document completed maintenance activities.
- Conduct a review of the procedures and policies relating to Sediment and Erosion Control, Trash Management, Building Exterior Maintenance, Street Cleaning, and Material Storage
- Fully implement procedures and policies relating to Vehicle Maintenance
- Conduct annual Facilities Inspection for compliance with Operation and Maintenance policies and procedures
- Hold annual employee training and review employee training records

Pollution Prevention for 303d Listed Pollutants

Activities for May 2010 through December 2012:

- Identify and choose a minimum of one outfall discharging to the Kanawha River, representative of the stormwater discharge from the MS4 and sample at least once every six months for fecal. Upon identifying what pollutant(s) are in the MS4's stormwater runoff, create a sampling plan within sub watersheds to identify areas that are sources of the listed pollutants.
- Identify and choose a minimum of one outfall discharging to the Coal River, representative of the stormwater discharge from the MS4 and sample at least once every six months for fecal coliform. Upon identifying if the pollutant in the MS4's stormwater runoff, create a sampling plan within sub watersheds to identify areas that are sources of the listed pollutants.

Activities for 2011 through December 2016:

- Continue sampling within watershed's for identified pollutants on a semi-annual basis.

Monitoring, Recordkeeping, Reporting and Program Review

Activities for May 2010 through December 2013:

- Sample industrial users stormwater discharge to the MS4 and monitor for the following minimum parameters semi-annually, once in the Fall and once in the Spring:

<u>Parameter</u>	<u>Cutoff Concentration.</u>
○ BOD ₅	30 mg/L
○ COD	120 mg/L
○ TSS	100 mg/L
○ Ammonia Nitrogen	4 mg/L
○ Oil & Grease	15 mg/L
○ pH	6-9 s.u.
○ Fecal	400 counts/100 mL

- Identify and choose a minimum of one outfall representative of the stormwater discharge from the MS4 to the Kanawha and one to the Coal River and monitor for the following parameters semi-annually, once in the Fall and once in the Spring:

<u>Parameter</u>	<u>EPA Method No.</u>	<u>Method Detection Limit (mg/L)</u>
○ Total Kjeldahl Nitrogen	351.4	0.03
○ Nitrate Nitrogen	300.0	0.002
○ Nitrite Nitrogen	300.0	0.004
○ Total Phosphorus	365.4	0.01

- Identify and choose a minimum of one outfall on the Kanawha River representative of the stormwater discharge from the MS4 and monitor for the following parameters semi-annually, once in the Fall and once in the Spring:

<u>Parameter</u>
○ Fecal Coliform

- Identify and choose a minimum of one outfall on the Coal representative of the stormwater discharge from the MS4 and monitor for the following parameters semi-annually, once in the Fall and once in the Spring:

<u>Parameter</u>
○ Fecal Coliform

- Evaluate the annual effectiveness of the stormwater management program utilizing the USEPA guidance document: *Evaluating the effectiveness of municipal stormwater programs*
- Publish approved Stormwater Management Plan on the Stormwater Webpage and make available to the public during regular business hours.

- Develop Annual Report per requirements of the WV General NPDES Water Pollution Control Permit, page 24, and Post Annual Report on the Stormwater Webpage and make available to the public during regular business hours.
- Maintain Records all records related to the Stormwater Program implemented under this permit for a minimum of three years after termination of the general permit.
- Compile report of annual capital and operating expenditures required to implement minimum control measures.
- Continue to conduct outfall monitoring for parameters on page 24, of the WV General Stormwater Pollution Control Permit of the MS4 representative at the representative outfall.

Activities for 2014:

- Continue to conduct outfall monitoring of the representative outfall for the parameters on page 73 of this report.
- Evaluate the annual effectiveness of the stormwater management program utilizing the USEPA guidance document: *Evaluating the effectiveness of municipal stormwater programs*
- Develop Annual Report per requirements of the WV General NPDES Water Pollution Control Permit, page 24, and Post Annual Report on the Stormwater Webpage and make available to the public during regular business hours.
- Maintain Records all records related to the Stormwater Program implemented under this permit for a minimum of three years after termination of the general permit.
- Compile report of annual capital and operating expenditures required to implement minimum control measures.

Activities for 2015:

- Continue to conduct outfall monitoring of the representative outfall for the parameters on page 73 of this report.
- Evaluate the annual effectiveness of the stormwater management program utilizing the USEPA guidance document: *Evaluating the effectiveness of municipal stormwater programs*
- Develop Annual Report per requirements of the WV General NPDES Water Pollution Control Permit, page 24, and Post Annual Report on the Stormwater Webpage and make available to the public during regular business hours.

- Maintain Records all records related to the Stormwater Program implemented under this permit for a minimum of three years after termination of the general permit.
- Compile report of annual capital and operating expenditures required to implement minimum control measures.

Activities for 2016:

- Continue to conduct outfall monitoring of the representative outfall for the parameters on page 73 of this report.
- Evaluate the annual effectiveness of the stormwater management program utilizing the USEPA guidance document: *Evaluating the effectiveness of municipal stormwater programs*
- Develop Annual Report per requirements of the WV General NPDES Water Pollution Control Permit, page 24, and Post Annual Report on the Stormwater Webpage and make available to the public during regular business hours.
- Maintain Records all records related to the Stormwater Program implemented under this permit for a minimum of three years after termination of the general permit.
- Compile report of annual capital and operating expenditures required to implement minimum control measures.

Discussion (Evaluation of Results)

In order to successfully implement the proposed Stormwater Management Plan it will be important for the Stormwater Management Committee to continue meeting throughout the implementation of this plan. Minimum Measures Nos. 1 and 2, public education and participation can be implemented cost efficiently through partnership with other communities and local watershed organizations, developing a sponsorship program with area businesses, and utilizing existing developed educational materials and programs.

Minimum measures No. 4- Illicit Discharge Detection and Elimination will likely require additional labor and funding to a separate Stormwater Utility or through the Public Works Utility in order to carry out inspections, reviews, training, implement record keeping, and water quality testing.

Minimum Measures Nos. 5 and 6-Controlling Construction Site Runoff and Controlling Runoff from New/Redevelopments will both require a considerable amount of work in developing ordinances, implementing procedures in cooperation with the City's Building Department, conducting inspection and annual reviews, training of personnel, creating and implementing maintenance ordinances, and conducting site plan reviews.

Minimum Measure No. 6- Pollution Prevention Good Housekeeping Measures should be easily implemented with cooperation from all City Departments in outlining existing storage and maintenance procedures. Once procedures are reviewed and Stormwater BMPs incorporated into existing procedures, City personnel must then be trained on how to incorporate water quality protection behaviors into their day to day operations. A considerable amount of time will be required for inspection of facilities, record keeping, annual reviews of procedures, and the

compilation of a stormwater Maintenance and Operation Manual. Adequate funding should be appropriated to carry out these required procedures.

Progress on the implementation of the measurable goals will be evaluated and submitted via and Annual Report to the West Virginia Department of Environmental Protection, along with water quality sampling data, financial information, and field assessments.

Conclusion and Recommendations

The implementation of the proposed Stormwater Management Plan for the City of St. Albans will enable the City to fully comply with the existing West Virginia National Pollutant Discharge System General Stormwater Permit. However, it is crucial the City first address any challenges that will likely hinder full implementation of the proposed Stormwater Management Plan.

Through Stormwater Committee surveys and meeting discussions, challenges that were identified during the implementation of the 2004 Stormwater Management Plan, included lack of planning, organization, adequate funding, record keeping, and program leadership.

It is recommended that the City first hire and maintain a fulltime Stormwater Coordinator, who should possess superior organizational skills, planning and management skills, good written and oral communication skills and is knowledgeable or has the aptitude to quickly learn about the MS4 Program Requirement within the State of West Virginia. In order to meet the measurable goals outline in the propped Stormwater Management Plan a funding mechanism must be established to adequately fund the Stormwater Program. In addition to identifying partnerships and sponsorships for program activities, it is recommended that the City establish a

Stormwater Fee comparable to surrounding municipalities that can enable to City to carry out their MS4 management plan.

Through good leadership, organization, and adequate funding, the implementation of the proposed Stormwater Management Plan shall make the City of St. Albans a leader in successful MS4 implementation within the State of West Virginia.

References

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- City of St. Albans Stormwater Management Plan. March 2, 2004.
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- “Stormwater Phase II Final Rule Fact Sheet Series.” United States Environmental Protection Agency, EPA 833-F-00-009. January, 2000 (revised December 2005).
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- “WV Small MS4 General Permit Fact Sheet Rationale.” State of West Virginia Department of Environmental Protection- Division of Water and Waste Management, June 2009.

Stormwater Workshops

Roles and Responsibilities of Local Government in Stormwater Management. Speaker Jeff Hughes & Glenn Barnes, UNC School of Government Environmental Finance Center. Financing Your Stormwater Program: Applied Finance and Management Training, March 12-13, 2009, Charleston, West Virginia

Figuring out how much you need- Stormwater Program Cost. Speaker Tom Schueler, Chesapeake Stormwater Network. Financing Your Stormwater Program: Applied Finance and Management Training, March 12-13, 2009, Charleston, West Virginia

Stormwater Utility Fees. Speaker Jeff Hughes, UNC School of Government Environmental Finance Center & Tim Stranko, Steptoe & Johnson. Financing Your Stormwater Program: Applied Finance and Management Training, March 12-13, 2009, Charleston, West Virginia